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HISPANICS IN THE U.S. MILITARY

by

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September 2006

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13. ABSTRACT

This thesis approaches the theme of Hispanics in the military utilizing both qualitative and quantitative methods to identify their role in meeting the military's future manpower needs. The qualitative portion of the study begins with an examination of the historical record of diversity in the military. Contemporary information is derived from interviews with active duty Hispanic personnel, high school counselors and JROTC instructors. The results of the interviews suggest positive views of diversity and reinforce the strong influence of family members and friends in the career decision-making process for Hispanics. The high school dropout rates of Hispanics were attributed to non-traditional family lifestyles and poor English-language skills. The quantitative portion of the study undertakes econometric analysis of military attrition, promotion, and retention of Hispanic enlistees. Enlisted cohort data for all services from 1992-2005 was used to estimate the multivariate attrition, promotion, and retention models. The results of the statistical analyses suggest that Hispanics have lower predicted rates of first-term and early attrition, and higher rates of retention beyond the first term and of promotion to E-4. The authors recommend additional studies focusing on JROTC, Hispanic Officers, marketing and diversity management training.

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HISPANICS IN THE U.S. MILITARY

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I. HISPANICS IN THE U.S. MILITARY

> It is change, continuing change, inevitable change that is the dominant factor in society today. No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be.[1]

A. INTRODUCTION

Recognizing the dynamic domestic and international environment of the twenty-first century in testimony to Congress on January 17, 2001, Comptroller General of the United States David M. Walker remarked:

> Increased globalization, rapid technological advances, shifting demographics, changing security threats, and various quality of life considerations are prompting fundamental changes in the environment in which the government operates. We should seize the opportunity to address today's challenges while preparing for tomorrow.[2]

Correspondingly, the President's Management Agenda for fiscal year 2002 introduced a series of management initiatives with the aim of addressing these challenges and the goal of engendering a government that measures success based on completion, performance, and results.[3] Achieving these goals has been somewhat problematic in light of several federal workforce reduction practices of the 1990s.

The first initiative outlined in the President's Management Agenda is the Strategic Management of Human Capital. The president asserts that "the managerial revolution that has transformed the culture of almost every other large institution in American life seems to have bypassed the federal workforce.[4] In fact, a 2001 Government Accounting Office (GAO) report listed human capital management as a government-wide high-risk function. The report also noted that "much of the downsizing was set in motion without

[1] Isaac Asimov, in *The Columbia World of Quotations.* New York: Columbia University Press, 1996. www.bartleby.com/66/, accessed July 2006.

[2] United States General Accounting Office, GAO's 2001 Performance and Accountability and High-Risk Series Press Briefing Talking Points of David M. Walker, http://www.gao.gov/cghome/pascg.html, accessed May 2006.

[3] Office of Management and Budget, President's Management Agenda, FY 2002, http://www.whitehouse.gov/omb/budget/fy2002/mgmt.pdf, accessed May 2006.

[4] Ibid.

sufficient planning for its effects on agencies' performance capacity. This helped reduce their number of employees, but it also reduced the influx of people with new knowledge, new energy, and new ideas—the reservoir of future agency leaders and managers."[5] Government downsizing in response to a changing environment was conducted without regard to its most indispensable asset: people.

In this context, focusing on people and the objectives of completion, performance, and results, the expected long-term goal of the presidents' performance-based Strategic Management of Human Capital initiative is for agencies to "build, sustain, and effectively deploy the skilled, knowledgeable, diverse, and high-performing workforce needed to meet the current and emerging needs of government and its citizens."[6] In response to the Presidential Management initiatives all agencies developed implementation strategies and processes for producing yearly results updates.

The Department of Defense's (DoD) Military Personnel Human Resources Strategic Plan noted the societal changes that are occurring and their significant impact on the DoD. It asserts that the "military must recruit, train and retain people with the broad skills and good judgment needed to address the dynamic challenges of the twenty-first century."[7] Part of the methodology for developing the human resource strategic plan included the development of lines of operation: action items to be addressed. Line of Operation 2: Recruit the right number and quality, included "aggressively pursuing a workforce with diverse race, ethnic and socioeconomic backgrounds."[8] When Under Secretary of Defense David Chu says that we must "structure personnel policies consistent with long-run demographic changes"[9] and that "recruiting, developing and

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[5] United States General Accounting Office, GAO 01-263 High Risk Series, http://www.gao.gov/cgi-bin/getrpt?GAO-01-263, accessed May 2006.

[6] Office of Management and Budget, President's Management Agenda, FY 2002, http://www.whitehouse.gov/omb/budget/fy2002/mgmt.pdf, accessed May 2006.

[7] Office of the Under Secretary of Defense for Personnel and Readiness, Military Personnel Human Resources Strategic Plan Change 1. http://www.dod.mil/prhome/docs/military_hr_stratplan3.pdf, accessed May 2006.

[8] Ibid.

[9] Ibid.

retaining high quality, diverse people is our central focus,"[10] the question becomes who are the people that will be the future workforce of the military?

The face of America is changing. Data and projections from the United States Bureau of Census can provide some insight into the magnitude of the change. As early as 1980, 83.2 percent of the US population was white, 11.7 percent was black and 5.2 percent identified as other.[11] Hispanics, which is an ethnicity rather than a race, represented 6.4 percent of the population. By the 2000 Census, these figures became 75.1 percent white (8.1 percentage point reduction), 12.3 percent black (0.6 percentage point increase) and 12.5 percent other (7.3 percentage point increase).[12] Hispanic representation increased by 6.1 points to 12.5 percent. Note the large increases in the Hispanic representation and the "other" racial category. Part of the increase in the "other" category may be explained by the additional racial categories included in the 2000 Census. However, the increases were still significant. The Census Bureau projects that by 2050 no one racial or ethnic group will be in the majority. The United States has experienced significant demographic changes in the past. However, the changes of today include the greatest introduction of diversity ever.

B. THESIS

The Hispanic population is growing at a rapid rate and is estimated to become the largest ethnic group in the United States by 2050. Hispanics represent 14 percent of the active duty military strength while Hispanic non-citizens represent 37 percent of the non-citizens in the military. With Census Bureau projections indicating significant increases in the Hispanic population, this pool of potential recruits becomes increasingly relevant. In this thesis, we approach the issue of Hispanics in the military through the window of diversity, history and contemporary influence, utilizing both qualitative and quantitative methods, in an effort to identify their role in meeting the military's future manpower needs.

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[10] Office of the Under Secretary of Defense for Personnel and Readiness, Strategic Plan for 2006-2011. http://www.dod.mil/prhome/docs/stratplan06a.pdf. , accessed May 2006.

[11] In 1980, the other category represents anyone other than black or white.

[12] In the 2000 census, other refers to American Indian, Alaska Native, Asian, Native Hawaiian or some other race including those who self-reported as more than one race.

A qualitative approach seems necessary in capturing the significant social aspects inherent in any population group. Through this process, themes may emerge that provide insight into the econometric results. Meanwhile, the quantitative approach captures relationships among variables and yields important decision making metrics. Both approaches complement each other and provide for a synergistic evaluation.

C. THESIS ORGANIZATION

Chapter II provides a literature review which defines diversity, tracks the history of diversity in the military since the Revolutionary War, and defines the Hispanic population. Chapter III presents a review of a series of individual interviews of active duty Hispanic personnel, high school guidance counselors and JROTC professors reflecting on issues relevant to Hispanics. Chapter IV consists of the quantitative analyses. It begins with a literature review of attrition, retention and promotion studies. Enlisted cohort data sets from 1992–2005 used to analyze Hispanic enlistee performance in terms of attrition, retention and promotion. Chapter V summarizes the conclusions based on the results and provides recommendations.

II. LITERATURE REVIEW: DIVERSITY AND HISPANICS

> Change means movement. Movement means friction. Only in the frictionless vacuum of a nonexistent abstract world can movement or change occur without that abrasive friction of conflict.[13]

A. DIVERSITY DEFINED

Diversity is one of those terms, like leadership, that defy strict definition. Defining diversity has become a topic of discussion, development and training that has produced varying definitions and opinions. In its broadest context it describes "noticeable heterogeneity or the condition or result of being variable."[14] Narrowing the concept to a social context, results in this rather lengthy definition proposed by the Office of Human Resources of the University of California, Berkeley:

> Diversity refers to human qualities that are different from our own and those of groups to which we belong; but that are manifested in other individuals and groups. Dimensions of diversity include but are not limited to: age, ethnicity, gender, physical abilities/qualities, race, sexual orientation, educational background, geographic location, income, marital status, military experience, parental status, religious beliefs, work experience, and job classification.[15]

Even this definition, by the very nature of diversity, cannot include all the elements which one could characterize as diverse. Therefore, one can conclude that diversity is quite open to definition depending on the environment. The military has sought to produce its own definitions of diversity relevant to the military mission.

The Air Force model presents a good example. The Air Force has divided diversity into four types: Demographic (age, race, religion gender, ethnicity); cognitive (learning style, problem solving ability, creative ability); structural (joint, cross-

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[13] Saul Alinsky, in *The Columbia World of Quotations.* New York: Columbia University Press, 1996. www.bartleby.com/66/, accessed July 2006.

[14] Webster's Online Dictionary. http://www.websters-online-dictionary.org/definition/diversity, accessed July 2006.

[15] Office of Human Resources, University of California, Berkeley, Why Diversity Matters, http://hrweb.berkely.edu/seads/diverse.htm, accessed July 2006.

functional, occupational); and global (country of origin, national citizenship).[16] These four elements produce the social identity which is then applied to conceptual models for analysis of its effects on mission capability.

The Navy definition of diversity has slowly evolved. The previous Chief of Naval Operations, Admiral Clark, and the present, Admiral Mullen, have included increasing diversity as goals vital to the success of the Navy. In 2004, Admiral Clark directed the establishment of the Diversity Directorate. Traditional interpretations of diversity focus on race and sex; however, "Clark expanded the traditional focus… and folded in a sailor's creativity, culture, ethnicity, religion, skills and talents."[17] This expansion is critical since it acknowledges that diversity is more than just a racial categorization. However, it makes diversity much harder to measure. Part of Admiral Mullen's *Annual Guidance for 2006* included a statement that "Our strength and our future also rely on our diversity."[18] In a forum with the Navy League, Mullen's concerns centered on the "trajectory of the diversity of the Navy's leadership corps," concluding that "the degree that we do not make that match, we are at risk in terms of our future… if we are not diverse it is a significant weakness."[19] Admiral Mullen believes that the leadership of the Navy must be reflective of its composition and inherent diversity.

The Navy defines diversity as "all of the different characteristics and attributes of individual sailors and civilians that enhance the mission readiness of the Navy." The Navy definition of diversity is purposefully broad in its attempt to capture its complete significance. Measuring diversity within the context of Admiral Clark's expansion is difficult and is made even more challenging by the inherent diversity of Hispanic-Americans. Categorizing Hispanics is difficult when the Hispanic community itself self-identifies with different races and culture. Hispanics can be of almost any race and have

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16 Apriel Hodari, Willie Hopkins, Amanda Kraus, eds. "Evidence-Based Transformation: Mission Case for AF Diversity" http://www.sm.nps.navy.mil/nwc/05/17_DIVERSITY/KRAUS_4-11-AFDiversity_Workforce%20conference.ppt, accessed July 2006.

17 Chief of Naval Personnel Public Affairs. Navy Establishes Diversity Directorate. (2004), http://www.news.navy.mil/search/dispal.asp?story_id=14616, accessed July 2006.

18 Mike Mullen, CNO Guidance for 2006: Meeting the Challenge of a New Era. (2006), http://www.navy.mil/features/2006CNOG.pdf, accessed July 2006.

19 Mike Mullen, Setting the Course. (2006), http://www.navyleague.org/sea_power/mar06-38.php, accessed July 2006.

roots in many cultures. Immigration patterns to Latin America have produced in addition to the Spanish heritage, a significant Asian population in Peru, an Italian tradition in Uruguay, German tradition in Chile and Argentina, African influence throughout the Caribbean and indigenous influences throughout the region.

B. DIVERSITY IN U.S. HISTORY

Examining the historical record is helpful in revealing the continuing relevance of the diversity experience. Diversity is certainly not a new issue. From the earliest days of the Revolutionary war the US military has fought as a diverse group. Unfortunately, it was not typically because of the ideological issues associated with the founding of a new nation that believed that all men were created equal, but rather due to pragmatism. In order to fulfill the mission (the military's supreme objective), it frequently became necessary to incorporate the use of persons that would otherwise be excluded from military service.

In the following sections we review selected episodes in U.S. Military history related to a diverse military. The chronological review will focus on ethnic minorities but includes a brief section toward the end related to the service of women. Through this approach we will see that diversity and it impact is not a uniquely modern or contemporary issue but rather an issue that is being revisited under a new set of characters and in a different environment. In this new context, Hispanics themselves represent a diverse group that is becoming a significant percentage of the population. By reviewing history, identifying common themes and paralleling to modern issues it is hoped that we can apply these experiences in formulating contemporary policy.

1. Revolutionary War

Preexisting suspicions about the Native Americans initially influenced the Continental Congress to embrace a policy of Indian neutrality by explaining that the conflict was a "family quarrel."[20] Subsequently, upon acknowledging the skills of Indians as scouts and guerilla fighters, Congress authorized George Washington to enlist 2,000 Indians. 300 Indians fought in the Northern Campaign of 1777 and many others

[20]Morris J. MacGregor., "Minorities in the Armed Forces," Encyclopedia of the American Military, Volume III, Scribner's, NY, 1994.

fought with the Continental Army throughout the war. Established relationships with the Indians gave the British a significant advantage in their use.[21]

In Colonial America it was difficult to differentiate between native-born and alien. Citizenship was normally granted by the individual states and the independent character of each state created mutual suspicions among the colonists. A Continental Army consisting of troops from many states allowed recent immigrants from Ireland and Germany to participate without creating any additional contempt. The practical need to recruit aliens became necessary as manpower shortages arose. In Pennsylvania, a state with a large German population, regulations were printed in German and English. "Many recent immigrants, particularly from Ireland, the German States and Canada served as individuals throughout the American Forces."[22] Immigrants also served in special units organized by ethnicity and language. These included German, French, Canadian, Spanish and other foreigners.

Undesirable working and living conditions aboard ships forced the Continental Navy to pursue many sources of recruits. With insufficient domestic volunteers the Navy was forced to rely upon foreigners. By hiring crews in local ports, the standard practice for sailing ships of that time, the Continental Navy's manpower was one-quarter to one-third foreign.[23] One important individual, of particular relevance to the Navy's future, was a Spanish immigrant from Minorca, Spain by the name of Jorge Farragut. Captain Jorge Farragut successfully fought against the British in the Revolutionary War, remained in the United States and was the father of the Navy's first Full-Admiral David G. Farragut.[24]

Before the war, fear of slave uprisings or the "loss of the value of human property" limited the use of black soldiers.[25] By the beginning of the Revolutionary war

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[21] Morris J. MacGregor., "Minorities in the Armed Forces," Encyclopedia of the American Military, Volume III, Scribner's, NY, 1994.

[22] Ibid.

[23] Morris J. MacGregor, "Minorities in the Armed Forces," Encyclopedia of the American Military, Volume III, Scribner's, NY, 1994.

[24] Refugio I. Rochin, Lionel Fernandez and Jose A. Oliveros, US *Latino Patriots: From the American Revolution to Iraq 2003 – An Overview*, Michigan State University, MI, 2005.

[25] Morris J. MacGregor, "Minorities in the Armed Forces," Encyclopedia of the American Military, Volume III, Scribner's, NY, 1994.

this had changed with "most colonies demanding military duty from all free men, whether white or black. Such duty was fully integrated."[26] Objections from the slave states forced Congress to stop enlisting blacks. Upon noting the success of the British in using blacks (who were promised freedom for their service), Congress reversed its policy. As the need for manpower increased, even slaves were enlisted. It is interesting to note that "there is no evidence that racial or denigration of black ability ever figured in the equation."[27] Blacks served as integrated members of both Continental and state militia units.

The recognition for blacks was of limited duration "when it became apparent that the protection of individual freedoms expressed in the Constitution and the Bill of Rights had little effect on the status of blacks in America."[28] The militia act of 1792 excluded blacks from military service. The Navy, with its harsh working conditions and desperate need for sailors, continued to enlist free blacks.

2. Civil War

Very few Native Americans fought in the Civil War. Indians were viewed by both the Union and the Confederacy as "too savage to fight in a white man's war."[29] In an early Civil War engagement, Indians had scalped the wounded. The general consensus was that Indians could not be trusted "to observe the military code of conduct and should be confined to operations against other Indians."[30] Since conscription laws prevented the enlistment of Indians, the Federal government created the Indian home guard. There service was limited to campaigns in Indian Territory which allowed Union troops to be redeployed.

The Civil War was fought by soldiers of many nationalities and races. Prior to the war, the U.S. experienced a wave of immigration, such that between 1820 and 1860 one-

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[26] Morris J. MacGregor, "Minorities in the Armed Forces," Encyclopedia of the American Military, Volume III, Scribner's, NY, 1994.

[27] Ibid.

[28] Ibid.

[29] Ibid.

[30] Ibid.

half of the U.S. population was foreign born.[31] Backlash toward immigration noted "as a threat to the existing social order" manifested itself as the Nativist movement.[32] The Nativist movement advocated "violence and the destruction of the property of Irish, Germans and African Americans."[33] Catholic Churches and convents were attacked and some destroyed, the Irish were regarded as a separate race, ignorant and morally dissolute. Although regulations prohibited the enlistment of immigrants, the need for personnel resulted in its disregard. By 1850 about two-thirds of the army's enlisted force was foreign born.[34]

Efforts by the War Department to limit service to English speakers met with intense opposition and caused a significant reduction in enlistments. In response the War Department was forced to clarify its policy by stating "that the order did not apply to individuals serving in companies and regiments of foreigners."[35] Many immigrants formed their own militia units which fought alongside the Union Army. They included units with names like the "Steuben Rifles,"…"Ulster Guard,"…"Cameron Highlanders," "Garibaldi Guards," and the "Swiss Rifles."[36] The increasing demand for manpower resulted in recruiters going to Ireland before they even immigrated. As the war progressed and casualties increased, these ethnics units would be integrated with the regular army units.[37]

Although many African Americans wanted to volunteer for service, they were initially prohibited from fighting in the war by both sides due to 1) concerns by the North

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[31] Vincent Parillo, *Strangers to These Shores: Race and Ethnic Relations in the United States*, Allyn and Bacon, Boston, MA, 1997.

[32] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[33] Ibid..

[34] Morris J. MacGregor, "Minorities in the Armed Forces," Encyclopedia of the American Military, Volume III, Scribner's, NY, 1994.

[35] William Burton, *Melting Pot Soldiers: The Union's Ethnic Regiments,* Fordham University Press, New York, NY, 1998.

[36] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[37] Ibid.

of antagonizing the border states and 2) concerns by the south "that if slaves made good soldiers our whole theory of slavery is wrong."[38] A New York Times article of the day gives interesting insight into the debate:

> 1) That the negro will not fight…. 2) It is said that whites will not fight with them – that the prejudice against them is so strong that our own citizens will not enlist, or will quit the service, if compelled to fight by their side – and that we shall thus lose two white soldiers for every black one that we gain… 3) It is said we shall get no negroes – or not enough to prove of any service…. 4) The use of negroes will exasperate the South: and some of our Peace Democrats make that an objection to the measure.[39]

Once again, the practicality of the need for manpower resulted in the Emancipation Proclamation's authorization to enlist black troops. Some interesting statistics include: 10 percent of the Union Army was African American, 16–25 percent of the Union Navy was African American, 23 African Americans received the Congressional Medal of Honor.[40]

The Civil War hastened the integration of the five million immigrants which doubled the population of the United States in only 40 years. Civil War historian Herman Hattaway observed, "Brave deeds, and above all a shared military experience, bred a potent brotherly affinity."[41] This war resulted in the first time inclusion of Catholic, Native American, African American and Jewish Chaplains. The benefits for African Americans were much less enduring as racial biases, segregation and exclusion soon returned.

3. World War I

At the Beginning of World War I, the U.S. Army only had about 200,000 personnel. The repetitive thematic requirement for military manpower resulted in the 1917 passage of the Selective Draft Act. By the end of the war, 3.8 million men had been

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[38] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[39] "Use of Negroes as Soldiers," New York Times, 16 February 1863.

[40] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[41] Ibid.

drafted.[42] This significant increase in personnel brought back the same issues and debates with regard to the integration and assimilation of immigrants of diverse ethnicities, languages and religions, Native Americans, and African Americans.

In response to the significant increase in immigration, an "Americanization" movement developed in the early 1900s which resembled the Nativist movement of nearly a century earlier. Between 1880 and 1920, 23 million immigrants entered the United States. Whereas previous immigration had originated primarily from Ireland and Germany, this new wave of immigrants included four million Italians and three million Russians (43 percent Jewish).[43]

The Americanization movement was characterized by the anti-anything not American. Fortunately for the Irish, these sentiments were primarily directed at the newly arrived immigrants. "Italians were perceived to have criminal tendencies and be prone to violence."[44] The Guardians of Liberty were established by a former Army Chief of Staff to keep Catholics out of office "because they would take their orders from Rome."[45] Anti-Semitism was generally accepted and commonplace, *Life* Magazine's "Jew City" was a title conferred on New York City because of its significant Jewish population.[46] Much of the Americanization movement was substantiated by it followers beliefs in contemporary theories about the superiority of the "Nordic Race" and the "harsh and cruel struggle for survival through racial conquest and domination" of Social Darwinism.[47] In this climate, the military had to grapple with societal racial and ethnic bias to achieve manpower requirements in order to complete its primary mission of winning the war.

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[42] Refugio I. Rochin, Lionel Fernandez and Jose A. Oliveros, US *Latino Patriots: From the American Revolution to Iraq 2003 – An Overview*, Michigan State University, MI, 2005.

[43] Elliott Barkan, *A Nation of Peoples: A Sourcebook on America's Multicultural Heritage*, Greenwood Press, London, England. 1999

[44] Paola Sensi-Isolani, "Italians," *A Nation of Peoples: A Sourcebook on America's Multicultural Heritage*, Greenwood Press, London, England. 1999.

[45] Vincent Parillo, *Strangers to these Shores: Race and Ethnic Relations in the United States,* Allyn and Bacon, Boston, MA. 1997.

[46] Ibid.

[47] Joseph Bendersky, *The "Jewish Threat": Anti-Semitic Politics of the U.S. Army*, Basic Books, New York, NY. 2000.

The Conscription Act of 1917 resulted in a "diverse cross-section of American men that included large numbers of immigrants and other ethnic minorities."[48] A first hand account by a French soldier provides insight into the composition and disposition of this group:

> You could not imagine a more extraordinary gathering than this american [sic] army, there is a little bit of everything, Greeks, Italians, Turks, Indians, Spanish, also a sizable number of boches.49 Truthfully, almost half of the officers have German origins. This doesn't seem to bother them… Among the Americans are sons of emigrated Frenchmen and sons of emigrated boches. I asked one son of a Frenchman if these Germans were coming willingly to fight their brothers and cousins, he squarely answered me: "yes!"[50]

Many of the immigrants that came to the United States were from the lower socio-economic classes of their country of origin. In their mother countries they had limited access to education. The military was confronted with a situation were a significant portion of the available manpower resources could not be used under the existing training structures. It is estimated that 25 percent of the conscripted soldiers did not speak English or were functionally illiterate.[51] In response, the military established the Foreign Speaking Soldier (FSS) subsection. The program created development battalions in which the training was conducted in their native language while undergoing "intense English classes."[52] Soldiers that demonstrated potential were sent to Officer Training School so that they could lead these battalions. Upon completion of training the battalions would be divided into platoons and subsequently sent to Europe to be integrated into existing units as discrete ethnic platoons. The reasoning for this policy is explained in the Progressive reformer language of the day as, "an ethnic platoon would act as a "colony" within the larger "melting pot" of the company; they would provide a "foundation" for "Americanization," while "keep[ing] up [the immigrants'] morale much

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[48] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[49] Boche: a thick headed person; a stupid man; a hostile French term for a German.

[50] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[51] Ibid.

[52] Ibid.

better than if put among people of entirely different customs."[53] World War I ended before much of the English language training could be implemented for Hispanics.[54]

Acknowledging the religious diversity of the conscripted military, the chaplain corps became part of the military institution during World War I. Directives required the assignment of one chaplain per regiment. By the end of the war the Army had 2,363 chaplains. The Chaplain Corps included Episcopalians, Catholics, and Congregationalist Churches of all ethnicities and Jewish Rabbis. Chaplains were expected to provide services to soldiers of all faiths.[55]

The Native American experience, although leading to complete integration, was not the result of society's altruistic application of the ideal of social equity. Actually, it was the belief that the answer to the "Indian problem" was the eradication of the distinct tribal cultures.[56] In achieving these ends "approximately 25 percent of the entire adult Native American adult population served in World War I": this ratio was twice as high as the average of all registrants. [57] In 1919, citizenship was granted to all Indian veterans. This was followed, shortly thereafter, by universal conferral of Indian citizenship in 1924.

Although the military appeared to be quite progressive when compared to most of society and particularly the advocates of the Americanization movement, African Americans continued to serve in segregated units. It would require another war, with its exigency for manpower, and the growing political strength of African Americans for their integrated participation in the military to be mandated.

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[53] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[54] Refugio I. Rochin, Lionel Fernandez and Jose A. Oliveros, US *Latino Patriots: From the American Revolution to Iraq 2003 – An Overview*, Michigan State University, MI, 2005.

[55] U.S. Army Chaplain Center and School, "Chapter 5: World War I and Its Aftermath, 1919–1941," http://www.usachcs.army.mil/history/brief/chapter_5.htm, accessed August 2006.

[56] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

[57] Ibid.

4. World War II

In more than just the traditionally accepted hypothesis, World War II was a continuation of World War I. The intransigent character of racial and ethnic barriers, tempered by a small progressive body politic, continued to be reflected in the policy decisions of the military and society. Restrictive immigration policies were enacted in the 1930s against Mexican Americans "using mass deportation roundups and repatriation that forced many established Hispanics from their homes and separated families."[58] European Americans, many recent immigrants themselves, believed Mexican Americans competed unfavorably with them for the few available jobs. Mexicans Americans were alienated by societal policy in ignorance of their centuries of contributions to the military and to the country.[59]

Between the wars, the military colleges subscribed to the scientific theories of racial superiority and social Darwinism.[60] Many officers admired the German military and the virility of its civilian culture viewing them as practical examples of the existence of racial hierarchies.[61] In spite of the proven performance, dedication and loyalty in all previous American conflicts, many officers were once again questioning the military efficacy of ethnic minorities. At the beginning of the war this culture of racial hegemony was opposed by the more liberal Roosevelt administration. Recognizing the ethnic diversity of conscripted soldiers and the necessity of using them, the War Department declared to officers that "effective command cannot be based upon racial theories"[62]

The original draft of the Selective Service Act would have allowed African Americans to serve in the Army with no restrictions. The final act maintained segregated service and required the induction of "African Americans in percentages proportionate to their numbers in the general population and to provide opportunities for their service in

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[58]Refugio I. Rochin, Lionel Fernandez and Jose A. Oliveros, US *Latino Patriots: From the American Revolution to Iraq 2003 – An Overview*, Michigan State University, MI, 2005.

[59] Ibid.

[60] Joseph Bendersky, *The "Jewish Threat": Anti-Semitic Politics of the U.S. Army*, Basic Books, New York, NY. 2000.

[61]Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California, Berkeley, CA, 2003.

[62]Ibid.

all military specialties."[63] This was comparable to the separate but equal policy that prevailed in civilian America. In the military, this policy would create the need for redundant units, services and additional administrative burdens. The civilian leadership had to force the Army and the Navy to grant access to all military specialties. Subsequent performance by African Americans dispelled the view of the Army General Staff that "warned that social experimentation could undermine the war effort."[64] In a post World War II survey of 250 white "officers and noncommissioned officers [NCOs] who had served with integrated companies during the war, 79 percent of officers and 60 percent of NCOs characterized race relations as good or very good in these units; 62 percent of officers and 89 percent of NCOs recommended the continued use of racially mixed companies."[65]

The Japanese attack on Pearl Harbor caused many Americans to be suspicious of Japanese Americans. The War Relocation Authority acting to dispel the fears of an internal attack forced more than 110,000 Japanese Americans "many of whom were second and third generation Americans into internment camps.[66] In May 1942, Japanese Americans were designated enemy aliens and were not eligible for military service. This did not apply to the Japanese Americans already in service. A battle would once again ensue between a military institution which did not want the Japanese Americans in the military and the more progressive Roosevelt administration. In forcing the War Department to allow Japanese American service Roosevelt announced:

> No loyal citizen of the United States should be denied the democratic right to exercise the responsibilities of citizenship, regardless of his ancestry. The principle in which this country was founded and by which it has always been governed is that Americanism is a matter of the mind and heart; Americanism is not, and never was, a matter of race or ancestry.[67]

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63 Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

64 Bernard Nalty and Morris MacGregor, *Blacks in the Military: Essential Documents*, Scholarly Resources Inc., Wilmington, DE, 1981.

65 Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California, Berkeley, CA, 2003.

66 Ibid.

67 Masayo Duus, *Unlikely Liberators: The Men of the 100th and 442nd*, University of Hawaii Press, Honolulu, HI, 1987.

The illustrious record of the Japanese American units of World War II is very well known and significantly helped to change American sentiment toward Japanese Americans.

Chinese Americans were another group that suffered from significant discrimination in American society. The struggle of Chinese Americans, particularly on the West coast of the United States, has been well documented. Having the occasion to serve in completely integrated units during World War II, "provided them with unprecedented opportunities to improve their socioeconomic and political status and become full participants in an all-American war effort"[68] In 1943, Chinese immigrants were allowed to become naturalized citizens although very restrictive immigration policies still remained.

In spite of their superior performance in World War I, Native Americans were still questioned about their loyalty. Nazi propaganda of the time was predicting "an Indian uprising in the United States should Native Americans be asked to fight against the Axis."[69] On the contrary, Native Americans had a "100 percent draft registration rate and participated in service at a higher percentage, per capita, than any other ethnic group."[70] To ease their transition into military service, all-Indian training platoons were established.[71] Through a combination of military institutional support and the loyal dedication of another ethnic minority durable contribution toward the war effort were provided.

5. Beyond World War II

World War II served to correct many erroneous perceptions about racial superiority and ethnic bias. Although most ethnic groups were eventually integrated into the military, this did not translate into racial equality. Three remaining areas will be

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68 Judy Yung, "Chinese." In *A Nation of Peoples: A Sourcebook on America's Multicultural Heritage*, Greenwood Press, London, England, 1999.

69 Tom Holm, Strong Hearts, *Wounded Souls: Native American Veterans of the Vietnam War*, University of Texas Press, Austin, TX, 1996.

70 Ibid.

71 Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California, Berkeley, CA, 2003.

discussed in this section: ethnic minorities (particularly the African American experience), the emerging role of women in the service and the current debate on the gay "Don't ask, Don't tell policy."

a. Ethnic Minorities

The ethnic progress made during World War II did not translate into immediate acceptance by the military of African American servicemen. In 1948, Truman issued an executive order mandating "that there shall be equality of treatment and opportunity for all persons in the armed services without regard to race, color, religion or national origin."[72] Although the executive order applied to everyone it was particularly directed toward African Americans. The executive order in itself accelerated the process of integration but not without significant and continuous direction by the executive branch. Whereas the Air Force and the Navy had completely desegregated by 1952, the Army maintained resistant.

In 1949 President Truman established the Fahy Committee "to provide guidance and mentoring in the military efforts to implement a policy of integration."[73] While the secretaries of the Navy and the Air Force offered full support, the Secretary of the Army reported that "desegregation in the Army would occur only when it happened in American society claiming that the military was not an instrument of social evolution."[74] Another war with pragmatic requirements would be necessary to bring about reform.

The outbreak of the Korean War helped to provide enduring value to the African American cause. With the Army doubling in size in five months and 25 percent of all new personnel being African American it became difficult to support a segregated

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[72] Harry S. Truman, "Establishing the President's Committee on Equality of Treatment and Opportunity In the Armed Forces," Executive Order 9981, 26 July 1948, http://www.trumanlibrary.org/9981a.htm, accessed August 2006.

[73] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California, Berkeley, CA, 2003.

[74] Memorandum to Clark Glifford with attached statement to the Fahy Committee, dated March 28 and 29, 1949, by Kenneth C. Royall, Secretary of the Army, http://www.trumanlibrary.org/whistlestop/study_collections/desegregation/large/documents/index.php?documentdate=1949-03-28&documentid=197&studycollectionid=deseg&pagenumber=1, accessed August 2006.

army. Severe personnel shortages in theater, due to casualties, forced the integration of many field units and produced no problems.[75] Researchers from the RAND corporation reported in a 1993 study that:

> Army leaders had gradually come to accept, as had Air Force and Navy leaders before them, that racial integration positively influenced morale and performance, rather than endangering them. Segregation was costly, wasted human talent, and fostered destructive social dynamics and racial conflict, because it prevented members of different races from developing mutual understanding and trust.76

Military integration did not translate into social equity and most of American society remained segregated. These traditions of segregation and discrimination would cause continued hardship for ethnic minorities in the military.

During the 1960s the military's efforts to establish social equity coincided with the Civil Rights movement. While civilian society struggled with nationwide riots and protests, the military confronted similar episodes on a smaller scale. A RAND study from 1993 reported that: "African American and white soldiers exhibited increased racial sensitivity, resulting in voluntary social segregation, as a result of the extreme polarization of American society more generally."[77] Riots occurred on Marine bases, Navy ships and at Travis Air Force base. Desegregation had not been enough to bring about real equity and satisfaction. It is interesting to note that U.S. forces continued to operate effectively in spite of fears that racial tensions would impact military performance.[78] The job got done.

In 1970, recognizing the need to address issues of equity, the DoD "committed itself to equal opportunity and treatment for all personnel, regardless of race, national origin or sex."[79] The DoD established the Race Relations Education Board and

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[75] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California, Berkeley, CA, 2003.

[76] RAND, Sexual Orientation and U.S. Military Personnel Policy: Options and Assessment, National Defense Research Institute, Santa Monica, CA, 1993.

[77] Ibid.

[78] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California, Berkeley, CA, 2003.

[79] United States Army Research Institute for the Behavioral and Social Sciences, *Race relations Research in the U.S, Army in the 1970s: A Collection of Selected Readings*, 1988.

the Defense Race Relations Institute. Together these groups developed and delivered educational materials and instruction on race relations. The Army mandated that each unit receive 18 hours of training resulting in the "largest effort in terms of numbers of people and hours of training ever made by an organization to provide race relations instruction."[80] What a far cry from the Army's 1950s views of the "negro problem."

The Navy established "200 programs related to race relations in a three-year period."[81] Some of these programs included naming ships after noted African Americans, appointing special assistants for minority affairs and allocating 10 percent of NROTC units to predominantly black colleges.[82]

Continuing forward from the 1970s the U.S. military has sought to provide greater social equity to ethnic minorities. This brief historical overview has shown that the path was tumultuous and our contemporary experience lets us know that in spite of significant progress we can still improve. Although most programs were initially directed at African Americans they eventually included all racial and ethnic minorities. In 1979, the Defense Race Relations Institute was renamed the Defense Equal Opportunity Management Institute (DEOMI) The activist approach of DEOMI is best summarized by the institutes own assertion that: "The definitive message is that the military must not be nondiscriminatory; it must be actively anti-discriminatory to protect the Constitutional rights of all citizens."[83]

Today nearly 40 percent of the entire military is comprised of African Americans, Hispanics, Asians and Native Americans. "While prejudice has not been eradicated, the armed forces officially maintain zero tolerance policies against overt racism and social discrimination."[84] Annual surveys conducted by the military, in part aiming toward identifying racial injustices, find no statistically significant differences between the perceptions of whites and ethnic minorities with regard to issues of equity.

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[80] United States Army Research Institute for the Behavioral and Social Sciences, *Race relations Research in the U.S, Army in the 1970s: A Collection of Selected Readings*, 1988.

[81] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California, Berkeley, CA, 2003.

[82] Ibid.

[83] Ibid.

[84] Ibid.

b. Women

In a field that traditionally has been dominated by men, today's U.S. military is approximately 15 percent female. Although, this is the greatest percentage of women to ever serve in the military it does not mean that women did not have a significant influence in U.S. military history. Every U.S. conflict since the Revolution has had female participants who provided significant contributions toward victory.

During the early days of the revolution two women, Sybil Luddington and Deborah Champion bear note in that they share the title of the "Female Paul Revere." During Paul Revere's midnight ride they also rode through the countryside warning of the British arrival. Since women were not allowed to serve as soldiers some would disguise themselves as men. Others would support the military by following the camps as laundry washers, cooks or "Molly Pitchers": women who would bring water to the artillery battery soldiers. [85] George Washington's own words reflect the importance of these women's services to the morale of the troops when he wrote, "I was obliged to give Provisions to the extra Women in these Regiments, or loose by Desertion, perhaps to the Enemy, some of the oldest and best Soldiers in the Service."[86]

In addition to the same activities performed by women during the Revolutionary War, the Civil War provided an opportunity for women to be recognized as authorized participants important to the cause. The large number of sick and wounded soldiers required the establishment of a military medical system. Women, under contract from the government, were allowed to serve in military field hospitals and on Navy hospital ships.[87] The United States Sanitary Commission, established by President

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[85] Fort Point NHS, Revolutionary War Women at War Exhibit, http://www.nps.gov/archive/fopo/exhibits/women/women2.htm, accessed August 2006.

[86] John U. Rees, "The proportion of Women which ought to be allowed…" Female Camp Followers with the Continental Army, The Continental Line, http://www.continentalline.org/articles/article.php?date=9501&article=950101, accessed August 2006.

[87] Navy Historical Center, Nurses and the U.S. Navy prior to 1908, http://www.history.navy.mil/photos/prs-tpic/nurses/nrs-a.htm, accessed August 2006.

Lincoln in 1861, was a medical support organization, managed by women, which was tasked with "training nurses, staffing and supplying hospitals and arranging for the transport of the wounded."[88]

Between the Civil War and the end of the Spanish-American War, women established themselves as nursing professionals. Their performance during the Civil War demonstrated their utility as military assets. During the Spanish American War, 1,500 female civilian contract nurses served in every theater of battle. In 1901, recognizing the valuable contributions of women, Congress institutionalized the military nurse by passing the Nurse Corps Bill. The Army Nurse Corps was established in 1901 followed by the Navy Nurse Corps in 1908. Unfortunately, "these members of the newly created Corps did not receive military rank, equal pay, or benefits. Until the Red Cross came to their assistance…nurses even had to buy their own uniforms.[89]

Significant progress occurred during World War I as the recurrent theme of personnel needs motivated the services to give women a greater role in military service. For the first time, women were recruited into the military, not only as nurses, but now as yeomen and Signal Corps telephone operators.[90] Unfortunately, the government reneged on the promise that female soldiers would be entitled to veteran's benefits. In 1977, after 58 years, Congress finally fixed this wrong.[91]

During World War II, with the country completely mobilized for the largest scale war of history, women's participation in the military significantly increased. Thousands of women joined the military through the Women's Army Corps; the Navy WAVES (Women Accepted for Volunteer Emergency Service); the WASPs (Women Airforce Service Pilots); the Naval Reserve; the Marines; and the SPARs (from the Coast Guard's service motto of "Semper Paratus," "always prepared"). This significant

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88 Fort Point NHS, Civil War Soldiers, Spies & Nurses, http://www.nps.gov/archive/fopo/exhibits/women/women2.htm, accessed August 2006.

89 Fort Point NHS, Spanish-American War, http://www.nps.gov/archive/fopo/exhibits/women/women2.htm, accessed August 2006.

90 Ibid.

91 Rudi Williams, Military Women Take 200-year Trek Toward Respect, Parity, United States Department of Defense, http://www.defenselink.mil/news/Aug19998/n08121998_9808123.html, accessed August 2006.

participation by women demonstrated the importance of women in future conflicts and helped to bring about the Women's Armed Services Integration Act in 1948. [92]

In 1951, the DoD established the Defense Department Advisory Committee on Women in the Services (DACOWITS). The purpose of the committee is:

> to provide advice and recommendations on matters and policies relating to the recruitment and retention, treatment, employment, integration, and well being of highly qualified professional women in the Armed Forces…beginning in 2002, the Committee will provide advice and recommendations on family issues related to recruitment and retention of a highly qualified professional military.93

Each year the committee provides inputs to DoD detailing the results of information gathered through a variety of resources in response to contemporary issues. Some of the issues for 2005 included: work/life balance and career opportunities, work/life balance and family well-being, work/life balance and unique guard and reserve issues.[94] These topics reflect the level of commitment that the U.S. military is examining in providing a desirable work environment as it strives to develop it human capital. The recommendations of DACOWITS have been influential in the implementation of policy.

The increased participation of women in the military has occurred in parallel with an international women's rights movement which questions not just civilian female roles but traditional gender roles regarding military service.[95] The advent of the All Volunteer Force (AVF) has also had an impact on female participation rates. The AVF's market approach to staffing lends itself to the increased participation of a group that represents 50 percent of the population. The service struggles of women have been very similar to that of other minority groups.

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[92] Rudi Williams, Military Women Take 200-year Trek Toward Respect, Parity, United States Department of Defense, http://www.defenselink.mil/news/Aug19998/n08121998_9808123.html, accessed August 2006.

[93] DACOWITS fact sheet, http://www.js.pentagon.mil/dacowits/tableabout_subpage.html, accessed August 2006.

[94] Ibid.

[95] Gwyn Harris-Jenkins, "Armed Forces and Society," in "*International Military and Defense Encyclopedia*," Brassey's Inc., New York, NY, 1993.

C. HISPANIC DEFINED

The most commonly recognized contemporary definition of the term Hispanic has evolved from the Office of Management and Budget's (OMB) 1997 interpretation of Hispanic or Latino as "a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish Culture or origin regardless of race."[96] This has not always been the official OMB definition for Hispanic. The Census Bureau uses the OMB definition in generating its census questionnaire. It stresses that "changing lifestyle and emerging sensitivities among the people of the United States necessitate modifications to the questions that are asked."[97] The development of the official definition of the term Hispanic can be observed through the evolution of census related questions.

Typically, when researching how to prepare future census questionnaires, census statisticians will generate sample questions to administer to a select group of households. The responses to these questions are evaluated to determine if it was properly understood and if the desired variable is being measured. In the 1970 census 5 percent of households were asked "to choose whether their origin or descent was Mexican, Puerto Rican, Cuban, Central or South American or other Spanish."[98] In 1950 and 1960, the census reported on persons with Spanish last names in 5 states; Arizona, California, Colorado, New Mexico, and Texas. The 1940 census reported on the "white population of the Spanish mother tongue."[99] The 1930 census included the selection of Mexican under the question for race. This option was eliminated for the 1940 census and the 1930 data were revised to include the Mexican population with the white population.

Although contemporary literature denotes the results from pre-1980 censuses as Hispanic population figures, the meaning of the term before 1980 varied. The 1970 census tabulated as Hispanic those who spoke Spanish, had a Spanish heritage, or had a

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96 U.S. Census Bureau, Overview of Race and Hispanic Origin, March 2001, http://www.census.gov/population/www/documentation, accessed September 2006.

97 Ibid.

98 U.S. Census Bureau, The Hispanic Population, May 2001, http://www.census.gov/population/www/documentation, accessed September 2006.

99 Campbell Gibson and Kay Jung, Historical Census Statistics On Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990, For Large Cities And Other Urban Places In The United States, U.S. Census Bureau, 2005, http://www.census.gov/population/www/documentation/twps0076.html, accessed September 2006.

Spanish origin.[100] The term Hispanic became popular in the late 1970s as an alternative to the predominant Chicano label. Chicano originated from the radical Mexican-American political movement of the 1960s. Its widespread use in the media resulted in its association with all Hispanics: similar to another predominant characterization of all Hispanics as Mexicans. In preparation for the 1980 census, the Census Bureau formed an advisory committee. The term Hispanic emerged as "an umbrella term to cover the various Latin-American-origin subgroups."[101] The use of the term Hispanic has generated significant controversy. The Census Bureau contends that the term is a socio-political construct necessary for the implementation of a number of statutes "such as the enforcement of bilingual election rules under the Voting Rights Act and the monitoring and enforcement of equal employment opportunities under the Civil Rights Act."[102]

There are those within the Hispanic community that contend that the term is externally imposed by the dominant culture and internally endorsed by ethnic political elites.[103] This view seems to be validated by the 1997 Latino Ethnic Attitude Survey (LEAS) conducted by Daniel L. Roy of the University of Kansas. The survey was distributed over the internet and resulted in 1,042 responses. The authors reported that "in sum, LEAS respondents were a young, educated, middle-income group that more closely resembles the geodemographic structure of the general U.S. population that it does the U.S. Latino population."[104] The language of the report suggests that the structure of the survey elicits certain responses introducing bias that calls into question some of the findings. Some of the results include: (1) uniform dislike of the Hispanic label with 85 percent of the respondents preferring "a national origin label over an umbrella term"; (2) most popular label preference was Chicano; (3) "Latinos are willing

100 Campbell Gibson and Kay Jung, Historical Census Statistics On Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990, For Large Cities And Other Urban Places In The United States, U.S. Census Bureau, 2005, http://www.census.gov/population/www/documentation/twps0076.html, accessed September 2006.

101 Laura E. Gomez, The Birth of the "Hispanic" Generation: Attitudes of Mexican-American Political Elites toward the Hispanic Label, *Latin American Perspectives*, Vol. 19, No. 4, 1992.

102 U.S. Census Bureau, Why collect Hispanic Origin information?, http://ask.census.gov, accessed September 2006.

103 Laura E. Gomez, The Birth of the "Hispanic" Generation: Attitudes of Mexican-American Political Elites toward the Hispanic Label, *Latin American Perspectives*, Vol. 19, No. 4, 1992.

104 Daniel L. Roy, Summary Results from the Latino Ethnic Attitude Survey, University of Kansas, 1997, http://www.azteca.net/aztec/survey, accessed September 2006.

to assimilate into the majority culture economically, they are not necessarily willing to subsume it politically or culturally"; (4) most popular umbrella term is Latino; (5) Latinos are not a homogenous group; (6) 40 percent prefer English as the dominant language. [105]

The Pew Hispanic Center conducted a similar survey in 2002. Its 3,000 respondents were selected "from various backgrounds and groups so that in addition to describing Latinos overall, comparisons can be made among key Hispanic subgroups as well."[106] Throughout the report the term Hispanic and Latino were used interchangeably. Some of the Pew results are similar to the LEAS results. These included: (1) "There is no single homogeneous Latino opinion"; (2) Latinos "feel very strongly that Hispanics must learn English in order to be successful in the United States"; (3) "88 percent indicate that they…identify themselves by the country where they or their parents or ancestors were born." In contrast, (1) the Chicano label was never even considered, (2) 81 percent were almost as likely to use Latino or Hispanic and, (3) one in four choose Latino or Hispanic first in identifying themselves. [107] The Pew report while acknowledging that Latinos have no single homogeneous opinion recognizes, "that as a whole, the Hispanic population of the United States holds an array of attitudes, values and beliefs that are distinct from those of non-Hispanic whites and African Americans."[108]

Ryan L. Claasen from the University of California-Davis conducted an econometric study to attempt to answer the question: Do "Hispanics from diverse national origins share sufficiently similar experiences to warrant treatment as a pan-ethnic group."[109] The researcher argues that contemporary studies indicate that "diversity among Hispanics from different national origin groups leads one to expect

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105 Daniel L. Roy, Summary Results from the Latino Ethnic Attitude Survey, University of Kansas, 1997, http://www.azteca.net/aztec/survey, accessed September 2006.

106 Pew Hispanic Center/Kaiser Family Foundation, 2002 National Survey of Latinos, 2002, http://www/pewhispanic.019/files/execsum/15.pdf, accessed September 2006.

107 Ibid.

108 Ibid.

109 Ryan L. Claasen, Political Opinion and Distinctiveness: The Case of Hispanic Ethnicity, Political Research Quarterly, Vol. 57, No. 4, December 2004.

significant differences of opinion"[110] When testing for these differences of opinion the results were not statistically significant. The author concludes that his study "validates the practice of measuring uniquely Hispanic interests, and suggests that scholars need not equivocate on Hispanic distinctiveness in analyses of political responsiveness to Hispanic interests."[111]

The inherent diversity of the Hispanic/Latino population makes it difficult to select an all-encompassing non-controversial classifying term. One solution seems to be to collect data on all ethnic nationalities and then aggregate the data as desired. The favored approach of the Census Bureau has been to accommodate sensitivities by equivocating Latino with Hispanic on the 2000 census question. An advisory committee is presently addressing the issue for the 2010 census.

[110] Ryan L. Claasen, Political Opinion and Distinctiveness: The Case of Hispanic Ethnicity, Political Research Quarterly, Vol. 57, No. 4, December 2004.

[111] Ibid.

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III. INTERVIEWS

A. INTRODUCTION

Interviews were chosen as an exploratory vehicle to gain understanding into the motivations and issues of Hispanic youth regarding military service. Interviews provide insight into developing and interpreting the quantitative research. Personal interviews with open ended questions permitted us to develop a better understanding of specific issues related to the contemporary Hispanic experience. With the participant personally present for the interview, follow-on questions adaptive to the offered response provided a depth of understanding about opinions and motivations that would not be available using other means of research. The reported themes are based on multiple responses. Notice is made of opinions expressed by only one participant.

B. PARTICIPANT PROFILE

With Hispanics in the military as our primary area of research, ten active duty personnel specific to that target population were selected. Although Hispanics in all four services are represented in our quantitative analysis, only Navy personnel are represented in the interview sample. The responses from these interviews are not expected to be representative of the military population. However, the interviews provide a valuable vehicle for gaining information that hard data may not reveal. The Hispanic enlisted representation in the Navy at 9.2 percent is similar to the total Department of Defense Hispanic enlisted representation of 9.8 percent.[112]

Participants were carefully selected in an attempt to represent the wide breadth of Navy experience. Personnel were both male and female, with ranks ranging from E-3 to O-5 and with years of service covering three to 30 years. The aviation, submarine and surface warfare communities were represented as well as the nuclear, medical, engineering, electronic, deck and operations enlisted fields. Represented ethnicities included: Mexican, Mexican-German, Mexican-Irish, Mexican-Cajun, Salvadoran, Puerto Rican, and Guatemalan.

[112] Department of Defense, Population Representation in the Military Services Fiscal Year 2004, 2006, http://www.dod.mil/prhome/poprep2004, accessed September 2006.

Additional participants included two high school guidance counselors and two JROTC instructors. The purpose of selecting these individuals was to provide additional insight into one of the most significant issues in the Hispanic community: education. The high school counselors were females each with over 20 years of high school counseling experience. One counselor was of Mexican-Indian descent, the other was a non-Hispanic white. Since education is such a vital issue and our research is on issues pertinent to the military, it seemed natural to include JROTC instructors as interview participants. In a 1992 speech, President George H. Bush announced the expansion of the JROTC program based on its characterization as a "great program that boosts high school completion rates, reduces drugs, raises self esteem, and gets these kids firmly on the right track."[113] Our purpose in including these instructors was to attempt to gather some insight into the success of what had been touted in 1992 by General Colin Powell as the "best opportunity for the Department of Defense to make a positive impact on the nation's youth."[114]

C. PROTOCOL

The interview protocol (Appendix A) was designed to provide all the information necessary to give context for the interview. The interviews were conducted in an amicable manner so as to make the participants feel at ease. After a brief salutation, the interviewees were thanked for their participation. In the event that participants were unaware of the changing demographics of the United States, a short synopsis was presented regarding the U.S. Census Bureau's population reports and projections regarding Hispanics.

The participants were presented with some guidance by which to focus their responses, but where given open latitude to discuss any area in which they may have significant experience. The participants were informed of the confidentiality of their opinions, as well as the right to terminate the interview at any time. Finally, consent to record the interview was secured, in order to assist in the subsequent reconstruction of their responses.

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[113] JROTC History, Ware County JROTC, http://www.ware-jrotc.com/UnitHistory/JROTCHistory/jrotc_history.htm#Index, accessed September 2006.

[114] Ibid.

D. RESPONSES

Although many themes, opinions and areas of discussion arose during the interviews, four areas have been selected for reporting: diversity; influencers; high school drop-out rate; and JROTC participation. These areas were selected due to their predominance as recurrent interview themes and their relevance to the Hispanic experience in the military.

1. Diversity

Participants were asked to consider diversity and how they would define the term. Military personnel were universally in agreement when expressing diversity as "peoples of all backgrounds working together toward a common goal" and being necessary in order to "understand each other to provide teamwork." Responses were typically focused toward the satisfactory performance of the military mission. Some single word adjectives used to describe diversity included: history, culture, melting pot, race ethnicity, sex, background, behavior, skills, values and religion. Religion was only mentioned by one person. Several of the participants went on to discuss military diversity and its relationship to the civilian idea of diversity. The idea that seemed to emerge was that military personnel do not believe that the values of society are the same as the values of the military. Comments included: "the design of the military does not satisfy everyone in the country, the military is a subculture," and "the military has different standards, it's a different job…different than society."

The high school guidance counselors viewed diversity in a much broader context. The first counselor commented "that is different people coming together." The view of the second was somewhat surprising. She commented, "diversity is a difficult word it promotes divisiveness, something that separates…I understand the goal but we should look for commonality." In her experience the term diversity has been used to justify unacceptable behavior.

The JROTC instructors interpreted diversity as something that will "transpire in the future." Similar to one of the high school guidance counselors, one JROTC instructor remarked, "Diversity requires some ground rules…clarification to avoid hidden agendas

that may cause problems." The second JROTC instructor remarked that diversity demands "a different environment where the abilities of the instructor will need to be quite varied."

These comments introduced several ideas of interest. The military personnel discussed diversity very positively and linked the concept to mission accomplishment, while differentiating themselves from civilian society. The first part of their responses seemed to be inspired by their military diversity awareness training. The differentiation aspect of their comments may be an indicator of the increasing civil-military gap that some believe may be further widening as a result of using an all volunteer force with its market-based approach to staffing.[115]

The remarks of the guidance counselor and JROTC instructors, regarding the possible divisiveness of diversity, indicate the strong need for managing diversity. Diversity used as a justification for doing what you want to do how and when you want to do it is not the goal of diversity but can be used by some to achieve their personnel agendas.

2. Influencers

Influencers are the people in the lives of others who act as role models or give advice and guidance that induce a certain behavior or action. The participants were asked to identify the influencers of young Hispanics. Traditionally the stereotypical response to questions about who influences young Hispanics, is that the family, religion and the popular media figures are the main influencers. Interestingly, none of the ten military participants included religion or the popular media figures as influencers for them or other Hispanics. Family continued to be the predominant influencer. When queried as to the exclusion of religion most participant's response can be summed up by, "it just doesn't" or "that's a different thing." None used the services of the clergy for guidance, even those who identified themselves as religious.

After the family, other influencers were peers and friends, and present or former family and friends who had been in the military. Peers and friends were perceived as "people to imitate whether good or bad." An old Spanish adage says, "Dime con quien

[115] Rhonda Evans, A History of the Service of Ethnic Minorities in the U.S. Armed Forces, University of California Berkeley, 2003.

andes y te dire quien eres." The literal translation is, "Tell me with whom you walk and I will tell you who you are." This adage seems appropriate in characterizing the influence of peers and friends. The influence of peers and friends is further reinforced by the strong influence of family and friends that have prior military experience. Four of the ten participants indicated that family and friends with prior military experience were a significant influence in their decision to join the military. No mention of popular media figures was made during any of the interviews as a source of influence in their lives. This was not expected but may be explained by the small sample size and the fact that very few media figures have been or are in the military.

The high school guidance counselors also identified family as significant influencers but excluded peers. One of the counselors commented, "they don't talk to each other about careers…in fact they distract each other from thinking about it." The other counselor in a similar response noted that peers are more for partying, going to malls and causing gang problems. The guidance counselors also seemed to be advocating their profession by mentioning themselves and teachers as significant influencers. The active duty sample participants only reported guidance counselors twice and never mentioned teachers.

The two JROTC instructor's responses were more consistent with the active duty sample. They both agreed family and peers were significant influencers. One of the professors mentioned, "the kids need attention, they want someone to listen to them and interact…if we were fully staffed we could have more influence on them."

In reviewing the responses we questioned the stereotypical uniqueness of Hispanic influencers. Traditionally religion had a significant influence on Hispanic's lives but the trend seems to be away from clerical figures acting as influencers. Family continues to be significant and peers and friends have emerged as a strong influence. The sample size is too small to make bold inferences but the results were not expected. Throughout U.S. society family and friends are influencers that transcend ethnicity. Hispanics seem to be more in correlation with American values. One last comment bears note. The senior active duty respondent, an O5, believes that part of the reason for a lack

of Hispanic representation in the higher O6 and above ranks is due to family. He believes most Hispanics are unwilling to sacrifice family life for the demands of senior military officer life.

3. High School Dropout Rate

The Hispanic community is plagued with an alarmingly high drop out rate. In the United States, while 80 percent of the non-Hispanic whites and 75 percent of the black population has a high school diploma, only 62 percent of Hispanics graduate from high school.[116] The participants were asked to comment on the different high-school drop-out rates and to suggest some causes for the alarmingly high figure.

The active duty participants overwhelmingly responded emotionally to this question. The more critical responses included, "they are more comfortable working and getting paid rather than managing and leading," "they are satisfied with any job…not thinking about the future only thinking about the money they need today," and, "no passion toward advancing in anything." The more tempered responses sought societal influences as causing this figure. Several participants mentioned peer pressure as a significant factor. The preference is to enjoy life, while school is seen as a burden toward that goal. Leaving school permitted the student to get a job and buy objects that helped them to portray an image of success. Others quoted that since both parents worked, "there was more time to get in trouble" since they were not supervised.

Also included by several participants was the perception that "my parents are doing fine without high school diplomas." One of the participants believes that the high drop out rate is related to where you live and where you go to school. He asserts that in good schools Hispanic drop-out rates are lower. He concluded this from his personal experiences. The fact that many Hispanics attend schools in bad neighborhoods may influence their low graduation rates. Another participant hinted about an underground economy where money is plentiful without the need of a high school diploma. But, he added, no thought or provisions are made for the future.

The high school guidance counselors are acutely aware of the problem. One of the counselors commented, "With an incoming class 800 freshman, we end up with only

[116] Department of Defense, Population Representation in the Military Services Fiscal Year 2004, 2006, http://www.dod.mil/prhome/poprep2004, accessed September 2006.

400 graduating…where are they?...Mexico?…working?" They both believe that the problem lies in economic necessity, traditional values, and a non-traditional lifestyle. The economic necessity comes from the need to provide family support. This is reinforced by traditional values that demand participation in the financial support of the family as soon as one has the ability. The non-traditional lifestyle refers to the transient nature of many Hispanic families particularly those involved in the agricultural sector. Families will move throughout California and Arizona seeking employment in seasonal crops. Their accompanying children either change schools frequently or just don't attend.

The JROTC instructor observations mirrored those of the guidance counselors. One of the instructors added, "many families will take extended vacations…Christmas break is for two weeks but many will go to Mexico and stay four, six even eight weeks and then return to school…when they return they are behind, become disillusioned and quit." Both JROTC instructors mentioned discouragement with the language as making it difficult for some to continue in school.

4. JROTC

A surprisingly large percentage of the active duty participants were not aware of the JROTC program. Others had heard about the program but were not familiar with how it worked or if it was helpful. Of the few that were familiar with the program, they commented on its value of providing role models, developing a professional image and giving students a taste of military discipline. They believe that it should be focused on motivating students toward pursuing a college degree. But they also commented on the benefits of accelerated advancement for those who enlist. None of them knew anyone who had joined the Navy as a result of JROTC participation.

The guidance counselors believed it was a valuable program that taught leadership skills that were difficult to teach through other methods or programs. However, both remarked that the program needed much more visibility and increased interaction with the school and school administration. The JROTC instructors stressed the role of JROTC in developing leadership skills, increasing academic success, inculcating discipline and improving social adaptation. They were quick to point that JROTC is not an enlistment tool. Both programs were suffering from reduced enrollment but the instructors were optimistic about the future. Some of their challenges included

limited funding, which leads to material and personnel shortages, as well as a perceived lack of support from the school administration. Both programs reported Hispanic enrollment consistent with the demographic characteristics of the area.

E. SUMMARY

These interviews provided significant insight into the unique and contemporary experiences of Hispanics and some of the issues which they confront. The emotional responses regarding the low high school graduation rates indicated the level of concern about the issue, but very little was provided in the way of solutions. The causes seem to be related to non-traditional family lifestyles and disillusion over difficulty with the English language.

Whereas diversity was embraced by most, the observations regarding diversity as a cause for divisiveness and the need to manage diversity were right on target. None of the military personnel in our sample made this observation. We concluded that in the military environment, the inherent discipline reduces issues of divisiveness, but that does not preclude understanding the importance for leaders to recognize the need to manage diversity.

Emerging from the interviews, we were presented with several challenges to stereotypical assumptions about Hispanic values and influencers. Whereas family, clergy, and media personalities were previously thought to influence Hispanics, the interviews indicated that the clergy and media personalities were insignificant. Family, friends, and peers seem to have the greatest influence. As subsequent generations of Hispanics emerge and mature, many of the traditional assumptions will loose their validity. A new identity will emerge that incorporates contemporary American values without eliminating all Hispanic values.

IV. ANALYSIS OF PERFORMANCE OF HISPANIC ENLISTEES

A. INTRODUCTION

This chapter analyzes the performance of Hispanic enlistees in all four services. As stated in the previous chapters, Hispanics are the most rapidly growing segment of the U.S. population and are estimated to be the largest ethnic group by 2050. In the annual Department of Defense Population Representation Report it was stated that "There is a continuing need to track demographic changes and to monitor the balance between the benefits and burdens across the varied segments of society."[117] Our primary motivation in writing this thesis was to analyze the performance of Hispanics in the military. This way we can contribute toward an understanding of the role of Hispanics in meeting the military's manpower needs.

In the military manpower literature focuses on three important measures of enlisted personnel success are: attrition, retention beyond the first-term, and first-term promotion. These measures are very important to the military, because they are highly related to the goals of force-mix and cost-saving. Hence, we will examine the performance of Hispanic enlisted personnel according to these three measures of success.

Included in this chapter are: (1) a literature review of prior attrition, retention, and promotion studies; (2) a discussion of the data source and data collection methods; (3) a discussion of the samples; (4) a description of the variable descriptions; (5) a presentation of descriptive statistics and preliminary analysis; (6) a description of model specifications and the hypothesized effects of explanatory variables; (7) a discussion of results.

B. LITERATURE REVIEW: ATTRITION, RETENTION AND PROMOTION MODELS

This section will review the previous studies on the measures of success of Hispanic enlistees. Many studies have been conducted over the years that measure attrition, retention and promotion. Among those studies it is possible to find a few studies on Hispanic officers and reservists. However, there is no study that focuses thoroughly examines the performance of active duty Hispanic enlistees. Hence, in this

[117] Department of Defense, Population Representation in the Military Services Fiscal Year 2004, 2006, http://www.dod.mil/prhome/poprep2004, accessed September 2006.

section we review the studies that measure the success of enlistees and focus on Hispanics. This thesis supplements the literature with evidence that focuses solely on Hispanic enlistees.

1. Attrition

Hattiangadi, Lee and Quester analyzed the performance of Hispanic enlistees in the Marine Corps.[118] In particular, they investigated the boot camp and first-term attrition behavior of Hispanics. They restricted their data to observations from FY1992 to FY2001 and on four- to six-year initial enlistments. They also grouped Hispanics by gender to observe differences between attrition behaviors of males and females.

They found that although education levels at service entry for Hispanics and non-Hispanics do not vary a lot, the recruit quality for both male and female Hispanics was lower. This result was based on comparisons of AFQT scores, which may be lower for Hispanics due to language barriers. Because the AFQT score is derived from the performance on just the verbal and math subtests of the ASVAB (Armed Services Vocational Aptitude Battery), and English is the second language for most of the Hispanic enlistees, this assumption seems to make sense. The study also found that a lower proportion of male and female Hispanics meet the retention height-weight standards at accession, and many come into the military during the summer season when attrition is lower for all recruits.

The main findings of the study were the lower attrition rates for Hispanic enlistees. However, the effects varied across different ethnic backgrounds (defined as Cuban, Latin American, Mexican, Puerto Rican, and other Hispanic) and gender. Finally, non-citizens were found to have lower attrition rates for both Hispanics and non-Hispanics. Especially in the first-term, attrition rates were 8.2 percentage points lower for non-citizens than for citizens. Considering the relatively high proportion of non-citizens among Hispanic recruits, this may be one of the explanations for the lower attrition rates of Hispanics.

The authors concluded that none of the characteristics of Hispanics could explain the lower attrition rates. In fact, by looking at the characteristics that increase attrition

[118] A. U. Hattiangadi, G. Lee and A. O. Quester, "Recruiting Hispanics: The Marine Corps Experience Final Report," The Rand Corporation, Santa Monica, CA, March 2004.

rates, one should expect Hispanics to have higher attrition rates than non-Hispanics. Based on the interviews with the Hispanics recruits and their research, the lower attrition rates could be attributed to a reluctance to disappoint family and friends, an unwillingness to lose the economic status of the enlistment opportunity, and the positive feelings of equal treatment for all races and ethnicities in the Marine Corps. The statistical results also suggested that there could be interesting effects between citizenship and different ethnic backgrounds.

In his analysis of attrition, Buddin looked at the attrition behavior of non-prior-service Army enlisted personnel.[119] To understand both the implications of the latest Army recruiting decisions and the practices on the manning of first-term soldiers, Buddin examined recruit attrition at different levels throughout the first-term. These were: Basic Combat Training (BCT) attrition, early (6-month) attrition, and first-term attrition.

He analyzed attrition at different steps reasoning that there could be different problems in each phase. He changed his analysis in accordance with the phase of training since causes of attrition could also vary. For example, overweight people could perform badly in basic combat training, where physical fitness is important, whereas they could do well in advanced individual training, where the emphasis is on acquiring job skills.

In the early attrition part, he defined the attrition variable as the recruits who attrited in the first six months. His analysis controlled for features of the enlistment contract, recruiting environment, recruiter characteristics, fiscal year of accession, and basic combat training base. He found that minorities have lower attrition rates than whites. Hispanic enlistees had the lowest attrition probability (about 6 percentage points lower) among all the minorities. Other factors that influenced attrition were alternative certifications, marital status, age, AFQT scores, and unemployment rates.

The study also found that early attrition changes little with the length of contract. Yet, lower early attrition is associated with pay grades. People who join the service with a higher entry pay grade have lower attrition rates than those with similar other

[119] Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA, 2002.

characteristics. The results show that attrition rates vary heavily from cohort to cohort as well, even after controlling for recruit backgrounds and other factors.

The low attrition rates for Hispanics were also evidenced in the first-term attrition analysis (defined as attrition in the first 36 months). In fact, Hispanics had the second lowest attrition rate among minorities after the Asian minority group. Other results seemed to be similar to the early attrition model results.

In another study, Quester and Kimble[120] state that one of the characteristics that have historically been tied to success in the Marine Corps Recruiting Depot (MCRD) is Hispanic ethnic background. Other characteristics tied to success include being a high school graduate, three or more months spent in the delayed entry program, meeting the retention weight-for-height standard at accession, entering in the summer (June, July, August, or September), having a high AFQT score, and absence of enlistment waivers. The study also found that pre-service smoking behavior was an important predictor of MCRD attrition. Since Hispanics were less likely to be smokers the study suggested that this was another reason why Hispanics attrite less.

Quester and Kimble defined the first-term attrition period as 45 months, since more than 85 percent of the Marine Corps entered the service with a 4-year initial contract. The attrition rate for Hispanics was found to be the lowest among all race-ethnic groups at 23.1 percent. They asserted that less attrition in MCRD does not mean higher attrition later. Predictors of attrition that were found to be significant were the following: retention, weight-for-height standard, DEP status, educational background, race and ethnicity, seasonality, and AFQT scores.

Wenger and Hodari focused on a 36-month period as the primary measure of attrition.[121] By merging the results of a survey with the DMDC personnel records, they were able to see the effects of both non-cognitive factors and individual characteristics on attrition.

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120 A. O. Quester, Theresa H. Kimble, "Final Report: Street-to-Fleet Study Volume I: Street-to-Fleet for the Enlisted Force," Center for Naval Analyses, Alexandria, VA, 2001.

121 Jennie W. Wenger and Apriel K. Hodari, "Predictors of attrition: Attitudes, Behaviors, and Educational Characteristics," Center for Naval Analyses, July 2004.

Consistent with the findings by Buddin, Wenger and Hodary showed that in each sample (high school graduates, non-high school graduates, high school graduates and home schooled recruits), Hispanics had the second lowest attrition rates after Asian-Pacific Islanders. Their focus, however, was on the effect of general background characteristics and educational attainment on attrition rates. They found that married women attrite more than single women, that the attrition caused by the time spent in DEP varied for non–high school diploma graduates (NHSDGs) and high school diploma graduates (HSDGs), that the effects of age on attrition differ for HSDGs and NHSDGs, that state-level regulations affect recruit quality, and that GED holders attrite at higher rates than people who have a certificate of completion. The high attrition rates for the alternate credential holders were attributed to the potential signaling effect of the various educational credentials, such as persistence or seat time. The authors also found that non-cognitive factors influenced attrition, although at a lesser degree than cognitive and demographic attributes.

2. Retention

The most commonly used model in retention studies is the Annualized Cost of Leaving (ACOL) model and was introduced by Enns, Nealson and Warner in 1984. The seminal work of Warner and Asch[122] studies retention in the context of this model. The ACOL model measures the difference between the present value of future military earnings from staying in the military and civilian earnings from leaving. As the economic theory suggests, one will try to maximize his/her utility so, if the difference between the staying utility and leaving utility is positive, he/she will stay. The model tries to include all possible factors even individual discount rates and the taste differences for the current and future employment. This model is considered to be valid and well established. However, the model is criticized for being biased due to the data collection from veterans. The veterans have already made their decision to leave, so including them in the sample introduces a selection bias. In addition, the model depends on a single time

[122] J. Warner, B. Asch, "The Economics of Military Manpower," Handbook of Defense Economics, Volume 1, Elsevier Science, BV, 1995.

horizon and does not respond to dynamic changes that induce separation, involuntarily separation, and the likelihood of separation.[123]

Hansen and Wagner looked at the relationship between compensation and enlisted retention.[124] They asserted that compensation is very important not only to make people enlist in the Navy but also to stay in the Navy. They defined the duration of the retention term as a reenlistment or an extension of at least 3 years. Their baseline model included three sets of variables: military pay, civilian pay, and military tastes. Their sample consisted of male sailors (E-3 to E-6) between the ages of 19 and 40 who were eligible to enlist. The study found that the pay elasticity estimate for the Navy enlisted personnel was 1.5, which means a 1 percent increase in pay was predicted to cause a 1.5 percent increase in reenlistment. However, with different model specifications from the same sample they reached various estimates that ranged from 0.4 to 2.9. Hence, they stated that the pay elasticity reflects the attributions to pay of the model specified rather than the real responsiveness to pay of enlisted people. It is interesting to note that they found that Hispanics had a lower retention rate than whites. In fact, Hispanics were the only ethnic group that had a lower retention rate than whites. Other demographic variables that had a positive effect on reenlistment included being married, number of children, age, AFQT score, and unemployment rate.

Quester and Adedeji looked Marine Corps enlistees and analyzed the effects of changes in pay indices and the length of terms on reenlistment.[125] Over the years, the rate of marriage among Marine enlistees has increased significantly. Regardless of marital status, the number of people who had one or more dependents reenlisted at higher rates. In addition, overall Marine AFQT scores were higher than the other services. They state that the efforts of the Marine Corps in terms of acquiring more qualified recruits paid off and are reflected in the retention rates.

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[123] J. Warner, B. Asch, "The Economics of Military Manpower," Handbook of Defense Economics, Volume 1, Elsevier Science, BV, 1995.

[124] M. Hansen, J. Wagner, "Why Do Pay Elasticity Differ?" Center for Naval Analyses,, Alexandria, VA, March 2002.

[125] A. Quester, M. Adedeji, "Reenlisting in the Marine Corps: The Impact of Bonuses, Grade, and Dependency Status," Center for Naval Analyses, Alexandria, VA, July 1991.

The results of their study suggest that those who receive higher selective reenlistment bonuses, higher pay grades, and longer initial enlistments, as well as females, blacks, and married enlistees are more likely to reenlist. It is interesting that the strongest effect of bonuses was evidenced for Marines with the higher AFQT scores. However, AFQT score had a negative effect on reenlistment. It was also found that being Hispanic had a positive effect on reenlistment.

3. Promotion

In order to analyze the promotion outcomes for the recruits, Buddin built a joint model for first-term reenlistment and promotion.[126] This model incorporated the promotion likelihood of an enlistee at the end of the first-term into the reenlistment decision. The reenlistment model used the expected time to E-5 and the same set of independent variables as in the promotion model.

In the promotion model, the dependent variable was defined as the natural logarithm of (expected) time in service (TIS) at promotion to E5. At the end of the first-term, each soldier who has not yet been promoted to E-5 estimates the probable promotion time by looking at his progress and promotion of his peers. Hence, the dependent variable is truncated or censored for most of the soldiers. Buddin's statistical model handles this problem by producing an expected promotion time for each soldier. Explanatory variables were defined as the person's demographic characteristics, features of their enlistment contracts, Military Occupational Specialties (MOSs), and months deployed at the first-term.

The results suggested that being a Hispanic had a negative effect on promotion. The marginal effect of being Hispanic was relatively high among other minorities. Other variables that had positive effects on promotion to E-5 were being African American background, age at time of contract, some college credits, and AFQT score. Variables that had negative effects on promotion were female, Asian, GED, and college degree. Effects of the MOS variables were mixed.

In their thesis entitled "Noncitizens In The U.S. Military," O'Neil and Senturk analyzed DMDC enlisted data between FY1990 and FY1998 for all services. The

[126] Richard Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA March 2002.

promotion model estimated the prospect of promotion to E-4 when a person is on active duty, so it was not specific to the first-term. Since every service has its own policy, promotion models were applied separately for each service. The probability of promotion to E-4 was analyzed as a function of citizenship, AFQT percentile, demographics, and educational attainment. The study found that Hispanics had higher promotion prospects in all services except for the Air Force. Other variables that had a positive effect on promotion probability were: higher AFQT, male, non-citizen, gender, Asian, married, and dependents. The rest of the variables had mixed effects on promotion.

C. DATA SOURCE

The data used in this study was provided by Defense Manpower Data Center (DMDC). It contains information about all services from fiscal year 1992 to 2005. The data were updated for every enlistee each year so that the results were true panel data. By using the unique cohort identification number, we were able to follow each individual from entry until separation (or until 30 September 2005). The original data included information for both officers and enlisted personnel. For the purpose of this analysis, the data was restricted to enlisted personnel and in the Army, Navy, Air Force and Marine Corps.

D. DATA SAMPLES

Similar to the literature, this data set was limited to active duty enlistees with four-year initial contracts. The policies and conditions of Reserve Forces differ substantially from Active Duty Forces. Moreover, people who choose contracts with terms other than 4 years may have different tastes and aptitudes. In addition, prior service enlistees were excluded from the data set based on the idea that attrition, reenlistment behavior and promotion speed will be related to prior service.[127] Moreover, the success of Hispanic enlistees was analyzed by service since every service has a different policy.

The analysis of attrition included ten entry cohorts from 1992 to 2001. The oldest information in the data set was for fiscal year 1992. Earliest entry date for the 1992 cohort was defined as of October 1, 1992. Hence, individuals whose entry date was

[127] Beth J.Asch, John A. Romley, Mark E. Totten, "The Quality of Personnel in the Enlisted Ranks," The Rand Corporation, Santa Monica, CA, 2005.

before October 1, 1992, were deleted. The observations for people whose entry date was after September 30, 2001, were also deleted since it was not possible to follow their attrition behavior. Hence the data represent non-prior service enlistees with four-year initial obligation terms at accession. Due to bad record keeping there were some duplicate observations for the same fiscal year and for the same person. These observations were deleted. In addition, the records of enlistees whose information throughout the years was confusing were erased. For example, if an enlistee's initial entry date or sex, which should not change with time, was recorded inconsistently in later fiscal years, his/her information was excluded from the data set. In addition, we deleted information from enlistees who entered the service with greater than or equal to E4 rank for the promotion to E4 model. Table 1 indicates the number of observations for each service in different phases of the data restrictions. Sample sizes for each cohort and service are presented in Table 2.

Table 1. Number of Observations in the Data Set

Early Attrition, First Term Attrition and Retention models					Promotion to E4 Model
Branch of Service	**Total Number of Observations for Enlisted Cohorts FY1992-2005**	**Total Number of Observations without Duplicates by Consistent Records.**	**Total Number of Observations without Duplicates by Consistent Records for Cohorts FY1992-2001.**	**Total Number of Observations without Duplicates, by Consistent Records for Cohorts FY1992-2001 with 4-Year Initial Contracts.**	**Total Number of Observations for Enlistees who promoted up to E3 and, without Duplicates, by Consistent Records for Cohorts FY1992-2001 with 4-Year Initial Contracts.**
All	3,798,617	3,378,939	2,123,607	1,969,869	1,381,553
Army	1,355,242	1,092,322	485,311	434,624	293,483
Navy	1,012,154	952,207	718,312	662,892	452,068
Air Force	826,867	774,378	535,425	508,267	314,421
Marine	604,354	560,032	384,559	364,086	321,581

Table 2. Number of Observations in Each Fiscal Year Cohort by Service

COHORT YEAR	ARMY	NAVY	AIR FORCE	MARINE CORPS	ALL
COHORT 92	39,527	63,294	59,017	38,666	200,504
COHORT 93	39,144	63,193	52,419	35,040	189,796
COHORT 94	37,238	57,852	51,592	35,890	182,572
COHORT 95	39,390	58,327	52,846	35,297	185,860
COHORT 96	42,810	62,844	53,186	36,040	194,880
COHORT 97	45,940	67,151	51,908	36,329	201,328
COHORT 98	43,803	64,831	47,261	35,668	191,563
COHORT 99	47,188	76,727	42,300	35,161	201,376
COHORT 00	48,245	80,741	43,587	35,471	208,044
COHORT01	51,339	67,932	54,151	40,524	213,946
ALL	434,624	662,892	508,267	364,086	1,969,869

E. VARIABLE DESCRIPTIONS

1. Dependent Variables

For the analysis of the success of enlisted personnel, the thesis focuses on three commonly used measures: attrition; retention beyond the first term; and promotion. Some researchers like Buddin also analyzed the early attrition of enlistees. Thus we analyze both early attrition (first 6-months) and first-term attritions (first term).

a. Indicator of Early (Six-Month) Attrition

Survival in the first few months is an important indicator of early attrition. This period differs from the Basic Combat Training (BCT) which determines whether a person is fit or unfit for the military. Since the focus of this period includes Advanced Individual Training (AIT), it requires demonstration of specific abilities, and people who do not feel fit to the specific job usually attrite. Most studies use six months as the indicator of early attrition. We employ the same definition of early attrition.

b. Indicator of First-Term Attrition

We defined first-term attrition as survival to 45 months. Normally, four-year obligers must complete 48 months, but the military usually grants requests to leave

the service a few months prior to the end of the term. Those individuals who do not separate before 45 months were considered to be survivors.

c. Indicator of Promotion to E-4

Different studies have studied promotion to different ranks. Since promotion to E4 is one of the eligibility requirements for reenlistment, we chose promotion to E4 as the indicator of promotion.

d. Indicator of Retention Beyond First Term

If an enlistee stayed in the first term after the end of the initial four-year contract, it was considered retention beyond the first term. So, not only people who reenlisted for a second term but also people who extended for a period of time were considered as stayers. The reenlistment variable was coded as "1" if an enlistee stayed for more than four fiscal years or the difference between date of separation and initial entry date was more than 45 months, or he had four fiscal year records and no separation date.

2. Independent Variables

Demographic variables used in all of the four models were sex, marital status, age, AFQT percentile, number of dependents, number of collocated dependents, education credentials, citizenship status, race, ethnicity, pay grades and unemployment rates. Two variables were created for the variables that change with time, one variable indicating status at the time of enlistment and one at the time of reenlistment. Education categories were created for different education levels according to the Department of Defense three-tiered system. All independent variables are listed in Table 3. In the literature review, these variables were used to control for effect of personal qualifications on the selected measures of success. For our results to be readily comparable to the literature, we used similar controls in our analysis.

In addition to analyzing outcomes for all Hispanics as compared to non-Hispanics, we also separated out the Hispanic group according to ethnicity. The ethnic categories consisted of Puerto Rican, Mexican, Cuban, Latin American, and "other" Hispanic ethnicity. Since there are considerable differences among Hispanics, these dichotomous variables were used to control for the effects of Hispanic subgroups on retention, promotion and attrition.

Annual unemployment rates were created at the end of the four-year initial term for each cohort. The unemployment rates used were based on the home of record state of each individual for the period between fiscal year 1992 to fiscal Year 2005. The information was drawn from the Bureau of Labor Statistics for each state and year in our analysis. [128] These rates were used to control for the influence of economic conditions and job opportunities in the civilian environment on retention.

Citizenship origin code was used to create dichotomous variables for the national origin of the enlistees. Three dichotomous variables were created to indicate an enlistee's citizenship status, U.S. citizen and non-citizen.

Because the original DMDC data did not include any monetary information for the enlistees, this model does not have an ACOL (Cost of leaving) variable. We assume that primary occupation codes (military occupation specialty) will capture the effect of the cost of leaving on retention. Since all services use different primary occupation codes, the authors followed different methods to group occupation codes to create dummy variables for each branch. For the Navy, Air Force and Marine Corps enlistees, dichotomous variables were created by using the first three digits of the primary occupation codes. For the Army first two digits were used because of the limitations of the Stata 9.2, the statistical package used to estimate the multivariate models.

Table 3. Variable Descriptions

Variable	**Definition**
Dependent Variables	
ATTRITION45	=1 If enlistee attrited before completing 45 months; else 0
ATTRITION6	=1 If enlistee attrited before completing 6 months; else 0
REENLISTMENT	=1 If enlistee extends or reenlists beyond the first term; else 0
E4	=1 If an enlistee was promoted to E4 or more in the first term
Demographic Variables	
Female	=1 If an enlistee is female; else 0
Married	=1 If an enlistee is married; else 0
Age	Age at time of enlistment
afqtperc	Afqt Percentile value of an enlistee.

[128] United States Bureau of Labor Statistics, ftp://ftp.bls.gov/pub/time.series/la/ accessed August 2006.

Afqtcat1	=1 If an enlistee is in AFQT Category I (AFQT Score 93-99); else 0
Afqtcat2	=1 If an enlistee is in AFQT Category II(AFQT Score 65-92); else 0
Afqtcat3	=1 If an enlistee is in AFQT Category III(AFQT Score 49-64); else 0
Afqtcat4	=1 If an enlistee is in AFQT Category IV(AFQT Score 20-30); else 0
afqtcat5	=1 If an enlistee is in AFQT Category V (AFQT Score 9-15); else 0
Depnum	Number of dependents at time of enlistment
depnumend	Number of dependents at the end of first term
Educational Characteristics	
Tier I	=1 If an enlistee has a High school diploma or Completed one semester of college, no high school diploma or 1 year of college certificate of equivalency ,or 1-2 years of college, no degree ,or Associate degree ,or Professional nursing diploma ,or Baccalaureate degree ,or Master's degree ,or Post master's degree ,or First professional degree ,or Doctorate degree ,or Post doctorate degree ,or ; else 0
Tier II	=1 If an enlistee has a Test-based equivalency diploma ,or Occupational program certificate ,or Correspondence school diploma ,or High school certificate of attendance ,or Home study diploma ,or Adult education diploma ,or GED certificate, ARNG Challenge Program ,or ; else 0
Tier III	=1 If an enlistee has No secondary school certificate ,or Attending high school, junior or less ,or Attending high school, senior ,or Secondary school credential near completion ,or ; else 0
Citizenship Status	
uscitizen	=1 If an enlistee is US citizen; else 0
noncitizen	=1 If an enlistee is non Us citizen or national; else 0
Race-Ethnicity	
asian	=1 If an enlistee is Asian or Pacific islander; else 0
black	=1 If an enlistee is Black, not Hispanic; else 0
white	=1 If an enlistee is White, not Hispanic; else 0
hispanic	=1 If an enlistee is Hispanic; else 0
inalas	=1 If an enlistee is Indian/Alaskan; else 0
other	=1 If an enlistee is of other race; else 0
Ethnicity	
otherhispan	=1 If an enlistee is other Hispanic descent; lese 0
puertorican	=1 if an enlistee is Puerto Rican
mexican	=1 If an enlistee is Mexican

cuban	=1 If an enlistee is Cuban
latinam	=1 If an enlistee is Latin American with Hispanic Descent
Other Factors	
enpygrade1	=1 If pay grade of an enlistee is E1 at time of enlistment
enpygrade2	=1 If pay grade of an enlistee is E2 at time of enlistment
enpygrade3	=1 If pay grade of an enlistee is E3 at time of enlistment
enpygrade4	=1 If pay grade of an enlistee is E4 at time of enlistment
enpygrade_5	=1 If pay grade of an enlistee is E5 or greater at time of enlistment
payend1	=1 If pay grade of an enlistee is E1 at the end of first term
payend2	=1 If pay grade of an enlistee is E2at the end of first term
payend3	=1 If pay grade of an enlistee is E3 at the end of first term
payend4	=1 If pay grade of an enlistee is E4 at the end of first term
payend_5	=1 If pay grade of an enlistee is E5 or greater at the end of first term
unemp	Annual unemployment rate of an enlistee's home of record state at the end of first term
cohort92	=1 If an enlistee entered the service in FY1992; else 0
cohort93	=1 If an enlistee entered the service in FY1993; else 0
cohort94	=1 If an enlistee entered the service in FY1994; else 0
cohort95	=1 If an enlistee entered the service in FY1995; else 0
cohort96	=1 If an enlistee entered the service in FY1996; else 0
cohort97	=1 If an enlistee entered the service in FY1997; else 0
cohort98	=1 If an enlistee entered the service in FY1998; else 0
cohort99	=1 If an enlistee entered the service in FY1999; else 0
cohort00	=1 If an enlistee entered the service in FY2000; else 0
cohort01	=1 If an enlistee entered the service in FY2001; else 0

F. PRELIMINARY ANALYSIS

1. Descriptive Statistics for Enlistees in All Services

Table 4 shows that Hispanics comprise almost 7 percent of all enlistees in all services. The highest concentration of Hispanic enlistees is found in the Marine Corps with almost 10 percent, whereas the smallest is in the Air Force with about 4 percent.

Table 5 shows the variable means for all variables in the data set in all services and by Hispanic or non-Hispanic category. Important difference between Hispanic and non-Hispanics are apparent in attrition rates, retention beyond the first term, and promotion rates to different pay grade categories. Early attrition and first term attrition rates for the Hispanic enlistees are 11 and 13 percentage points lower than non-Hispanic enlistees, respectively. Hispanics have an average retention beyond the first term rate

that is 6 percentage points higher than that of non-Hispanics. Hispanics promote to E4 rank in the first term at higher rates than non-Hispanic enlistees. The average rate of promotion to E4 is almost 9 percentage points higher for Hispanics.

Among the demographic variables, the most remarkable differences between Hispanics and non-Hispanics are in terms of AFQT scores and number of dependents. Fewer Hispanic enlistees appear in AFQT category 1 and category 2 than do non-Hispanics. The percent of Hispanics in AFQT category 2 is 9 percentage points lower than that of non-Hispanics. Conversely, more Hispanic enlistees fall in the lower AFQT categories. The percent of Hispanics in AFQT category 3 is 14 percentage points higher than that of non-Hispanics. The percentage of Hispanic people in each education Tier, however, is almost the same as non-Hispanics.

Married Hispanic enlistees enter the service in smaller proportions than married non-Hispanics, yet married Hispanic enlistees outnumber married non-Hispanics at the end of the first term. The difference between the Hispanic and non-Hispanic enlistees goes up to 2 percentage points at the end. It seems that Hispanic enlistees have a higher propensity to get married in the first term than non-Hispanics. Accordingly, the average number of dependents at entry is lower for Hispanics by 13 percentage points than for non-Hispanics. However, this difference decreases to only 3 percentage points at the end of the first term. These statistics indicate that Hispanics may be more likely to have children, and to have more of them, during the first term. Table 5 also shows that the percent of Hispanics who are non-citizens is almost 8 percentage points higher than that of non-Hispanics.

Although Hispanic is a general term, there are different subgroups among Hispanics enlistees. The largest group is a general definition “other Hispanic descent,” which contains 47 percent of all enlistees. Those who define themselves as Mexican comprise 39 percent. The proportions of Latin Americans and Cubans are 4 percent and 1 percent, respectively.

Table 4. Number of Hispanics, Non-Hispanics and enlistees in all services.

	All	Hispanic	Non-Hispanic
Number of Enlistees	1,969,869	133,727	1,836,142
Army	434,624	24,646	409,978
Navy	662,892	50,854	612,038
Air Force	508,267	22,463	485,804
Marine Corps	364,086	35,764	328,322

Table 5. Mean Characteristics of Hispanics, Non-Hispanics and enlistees in all services.

Dependent Variables	All	Hispanic	Non-Hispanic
Attrite6	0.3406	0.2289	0.3487
Attrite45	0.4355	0.3073	0.4447
reenlist	0.3973	0.4542	0.3932
E4	0.4412	0.5225	0.4353
Demographic Variables			
female	0.1542	0.1499	0.1545
married	0.2907	0.2782	0.2916
marriedend	0.4230	0.4458	0.4214
age	22.9065	22.1416	22.9625
afqtperc	60.8415	55.1533	61.2614
afqtcat1	0.0765	0.0358	0.0794
afqtcat2	0.3545	0.2655	0.3610
afqtcat3	0.5394	0.6705	0.5298
afqtcat4	0.0213	0.0243	0.0211
afqtcat5	0.0001	0.0001	0.0001
depnum	1.2067	1.0815	1.2162
depnumend	1.2272	1.2012	1.2292
Educational Characteristics			
tier1	0.8742	0.8724	0.8744
tier2	0.0993	0.0997	0.0993
tier3	0.0264	0.0280	0.0263
Citizenship Status			
uscitizen	0.7473	0.7387	0.7479
noncitizen	0.0263	0.1005	0.0208
Race-Ethnicity			
asian	0.0230	0.0033	0.0245
black	0.1679	0.0051	0.1797
white	0.5857	0.0351	0.6258

hispanic	0.0679	1.0000	0.0000
inalas	0.0090	0.0007	0.0096
other	0.0109	0.0185	0.0103
Ethnicity			
otherhispan	0.0345	0.4703	0.0027
puertorican	0.0108	0.1431	0.0012
mexican	0.0304	0.3923	0.0040
cuban	0.0011	0.0104	0.0004
latinam	0.0040	0.0468	0.0009
Other Factors			
Entry Pay Grades			
enpygrade1	0.2101	0.2655	0.2060
enpygrade2	0.2575	0.2905	0.2551
enpygrade3	0.2173	0.2060	0.2181
enpygrade4	0.1351	0.1105	0.1369
Enpygrade_5	0.1800	0.1275	0.1838
Pay Grades at the end			
payend1	0.0533	0.0452	0.0538
payend2	0.0763	0.0610	0.0774
payend3	0.2352	0.2296	0.2356
payend4	0.4027	0.4750	0.3974
payend_5	0.2326	0.1891	0.2358
unemp	0.0533	0.0452	0.0538

Note: Rows of certain categories may not add to 1 due to missing observations and rounding.
Source: Author based on DMDC data

2. Descriptive Statistics for Army Enlistees

Hispanics comprise more than 5 percent of all Army enlistees. Of these, 33 percent of all enlistees are Mexican, 35 percent are other Hispanic descent, 23 percent are Puerto Rican, 9 percent are Latin American while only 1 percent are Cuban.

Table 6 provides variable means for Army enlistees. Early attrition for Hispanics is 16 percentage points lower than non-Hispanics. Similarly, first term attrition rates for Hispanics are nearly 18 percentage points lower than for non-Hispanics. Retention rates for Hispanics are about 12 percentage points higher. Promotion to E4 rank of Hispanic enlistees is 4 percentage points higher than that of non-Hispanic enlistees.

The average rate of married Hispanic enlistees at entry is 3 percentage points higher than non-Hispanics, whereas this difference becomes 6 percentage points at the end of the first term. A similar increase exists in the number of dependents. The number of dependents of Hispanic enlistees at entry is almost 2 percentage points lower than non-Hispanics while it is 3 percentage points higher at the end of the first term.

Although the difference between the percent of AFQT category 4 and AFQT category 5 Hispanic and non-Hispanic people is negligible with less than 1 percentage point, the remarkable differences are in the AFQT category 2 and AFQT category 1. The percent of Hispanics in category 3 is 14 percentage points higher than that of non-Hispanics, while the ones in category 1 and category 2 are 4 and 11 percentage points lower than non-Hispanics, respectively. The rate of Hispanic Tier1 enlistees is 5 percentage points lower than non-Hispanics, while this difference is less than 1 percentage point higher for Tier 2 and 1 percentage point lower in Tier 3.

The proportion of noncitizen Hispanic enlistees is 5 percentage points higher than that of noncitizen non-Hispanic enlistees. Yet, the proportion of US citizen Hispanic enlistees is about 5 percentage points higher than non-Hispanics.

Table 6. Mean Characteristics of Hispanics, Non-Hispanics and enlistees in Army.

Dependent Variables	All	Hispanic	Non-Hispanic
Attrite6	0.3288	0.1768	0.3380
Attrite45	0.4977	0.3294	0.5078
Reenlist	0.3748	0.4904	0.3678
E4	0.6343	0.6720	0.6320
Demographic Variables			
female	0.1782	0.1859	0.1777
married	0.3014	0.3363	0.2993
marriedend	0.4013	0.4589	0.3978
age	23.1585	22.9789	23.1694
afqtperc	60.4802	53.8082	60.8835
afqtcat1	0.0667	0.0286	0.0690
afqtcat2	0.3508	0.2440	0.3572
afqtcat3	0.5405	0.6747	0.5324
afqtcat4	0.0333	0.0491	0.0323
afqtcat5	0.0001	0.0001	0.0001

depnum	1.2500	1.2283	1.2514
depnumend	1.2518	1.2843	1.2499
Educational Characteristics			
tier1	0.8428	0.8368	0.8432
tier2	0.1222	0.1382	0.1212
tier3	0.0350	0.0250	0.0356
Citizenship Status			
uscitizen	0.5609	0.6158	0.5577
noncitizen	0.0138	0.0627	0.0109
Ethnicity			
otherhispan	0.0219	0.3526	0.0021
puertorican	0.0156	0.2376	0.0022
mexican	0.0236	0.3368	0.0047
cuban	0.0011	0.0122	0.0004
latinam	0.0062	0.0901	0.0012
Other Factors			
Entry Pay Grades			
enpygrade1	0.1922	0.2577	0.1883
enpygrade2	0.2478	0.2667	0.2466
enpygrade3	0.2171	0.1879	0.2189
enpygrade4	0.1823	0.1385	0.1849
enpygrade_5	0.1605	0.1489	0.1612
Pay Grades at the end			
payend1	0.0540	0.0426	0.0547
payend2	0.0758	0.0552	0.0771
payend3	0.1479	0.1132	0.1500
payend4	0.5018	0.5668	0.4979
payend_5	0.2205	0.2221	0.2204

3. Descriptive Statistics for Navy Enlistees

Table 7 provides variable means for all observations in the Navy data set. Non-Hispanics attrite 13 percent and 12 percent more than Hispanic enlistees in the first 6 months and 45 months, respectively. In addition, Hispanic enlistees are more likely to reach E4 (by 7 percentage points) than are non-Hispanic enlistees. Reenlistment rates for Hispanics and non-Hispanics are almost the same in the Navy.

Hispanics comprise almost 7 percent of all Navy enlistees. Table 7 shows that 28 percent of all Hispanic enlistees are Mexican, 54 percent are other Hispanic descent, 11 percent are Puerto Rican, 3 percent are Latin American while only 1 percent are Cuban.[129]

The proportion of married Hispanic people at entry averaged 2 percentage points lower than that of non-Hispanic enlistees. This difference decreased to less than 1 percentage point at the end of first term. Hispanic enlistees enter the service with a fewer number of dependents than non-Hispanics. The difference between the two groups is 15 percentage points. Interestingly, this number goes down to 8 percentage points at the end of the first term.

Although the differences between the number of AFQT category 4 and AFQT category 5 Hispanic and non-Hispanic people are negligible, there are remarkable differences in the percentage in AFQT categories 2, 3 and 1. The proportion of Hispanics in category 3 is 11 percentage points higher than that of non-Hispanics, while the ones in category 2 and category 1 are 5 percentage points lower and 4 percentage points lower than non-Hispanics, respectively. The rate of Hispanic enlistees in Tier1 is almost 2 percentage points lower than non-Hispanics, while this difference is one percentage point higher for Tier2 and less than one percentage point higher in Tier 3.

Table 7. Mean Characteristics of Hispanics, Non-Hispanics and enlistees in Navy

	All	**Hispanic**	**Non-Hispanic**
Dependent Variables			
Attrite6	0.5813	0.4579	0.5916
Attrite45	0.6012	0.4839	0.6109
Reenlist	0.7748	0.7583	0.7768
E4	0.4225	0.4925	0.4167
Demographic Variables			
Female	0.1474	0.1614	0.1463
Married	0.2620	0.2430	0.2637
marriedend	0.3831	0.3795	0.3834
Age	22.8855	22.0001	22.9589

[129] Ethnicity identifications are self-defined and not mutually exclusive.

Afqtperc	60.8621	56.5966	61.2235
afqtcat1	0.0861	0.0408	0.0899
afqtcat2	0.3568	0.3035	0.3612
afqtcat3	0.5211	0.6230	0.5126
afqtcat4	0.0265	0.0275	0.0264
afqtcat5	0.0001	0.0000	0.0001
Depnum	1.1088	0.9634	1.1216
depnumend	1.1256	1.0462	1.1324
Educational Characteristics			
tier1	0.8612	0.8429	0.8627
tier2	0.0990	0.1091	0.0981
tier3	0.0399	0.0480	0.0392
Citizenship Status			
Uscitizen	0.7754	0.7377	0.7786
Noncitizen	0.0353	0.0997	0.0299
Race			
Asian	0.0326	0.0007	0.0352
Black	0.1563	0.0018	0.1691
White	0.5686	0.0064	0.6153
Hispanic	0.0767	1.0000	0.0000
Inalas	0.0128	0.0002	0.0138
Other	0.0027	0.0001	0.0029
Ethnicity			
otherhispan	0.0446	0.5409	0.0032
puertorican	0.0094	0.1122	0.0009
Mexican	0.0243	0.2819	0.0028
Cuban	0.0012	0.0102	0.0005
Latinam	0.0034	0.0358	0.0007
Other Factors			
Entry Pay Grades			
enpygrade1	0.2138	0.2896	0.2075
enpygrade2	0.2282	0.2472	0.2267
enpygrade3	0.2127	0.2025	0.2136
enpygrade4	0.1437	0.1382	0.1442
Enpygrade_5	0.2014	0.1225	0.2080
Pay Grades at the end			
payend1	0.0609	0.0590	0.0610
payend2	0.0843	0.0767	0.0849
payend3	0.2349	0.2507	0.2336
payend4	0.3526	0.4222	0.3468
payend5	0.2673	0.1914	0.2736

4. Descriptive Statistics for Marine Corps Enlistees

Table 8 provides variable means for all observations in the Marine Corps data set. Early attrition rate for Hispanics is almost 17 percentage points lower than non-Hispanics. Similarly, first term attrition rates for Hispanics is 20 percentage points lower than for non-Hispanics. Retention rates for the Hispanics are almost 9 percentage points, while promotion to E4 rate is 15 percentage points higher.

The proportion of married Hispanics at entry is 2 percentage points higher than for non-Hispanics. However, this difference in marriage rates becomes 8 percentage points at the end of the first term. The difference between the average dependent numbers at entry is 3 percentage points. This gap enlarges even more at the end of the first term and becomes 18 percentage points.

Hispanics comprise almost 9 percent of all Marine Corps enlistees. This is the highest proportion among all services. 53 percent of all Marine Corps Hispanic enlistees are Mexican, 42 percent are other Hispanic descent, 10 percent are Puerto Rican, 5 percent are Latin American while only almost 1 percent are Cuban.

Although the differences between the number of AFQT category 5 and AFQT category 4 Hispanic and non-Hispanic people are negligible with less than 1 percentage points, there are remarkable differences in the AFQT category 1, 2 and 3. The proportion of Hispanics in category 1 is 2 percentage points lower and the ones in category 2 are 10 percentage points lower than that of non-Hispanics. Moreover, proportion of Hispanic enlistees in AFQT category 3 is 14 percentage points higher than that of non-Hispanics.

The rate of people in all tiers is almost the same for both Hispanic and non-Hispanic enlistees. However, there are less Hispanic enlistees in Tier 2 and Tier 3 than non-Hispanics. Marine Corps is the only service where the proportion of higher quality Hispanic enlistees is higher than that of the higher quality non-Hispanics.

Table 8. Mean Characteristics of Hispanics, Non-Hispanics and enlistees in the Marine Corps

	All	Hispanic	Non-Hispanic
Dependent Variables			
Attrite6	0.1928	0.0404	0.2093
Attrite45	0.3180	0.1373	0.3377
Reenlist	0.1990	0.2813	0.1900
E4	0.4786	0.6167	0.4636
Characteristic Variables			
Female	0.0588	0.0655	0.0580
Married	0.1698	0.1925	0.1673
marriedend	0.3731	0.4532	0.3644
Age	20.8324	20.5647	20.8617
Afqtperc	56.9459	51.7490	57.5139
afqtcat1	0.0376	0.0136	0.0402
afqtcat2	0.2986	0.2017	0.3091
afqtcat3	0.6495	0.7743	0.6359
afqtcat4	0.0093	0.0084	0.0095
afqtcat5	0.0000	0.0001	0.0000
Depnum	0.8048	0.8338	0.8016
depnumend	0.9408	1.1009	0.9236
Educational Characteristics			
tier1	0.9202	0.9257	0.9196
tier2	0.0607	0.0599	0.0608
tier3	0.0191	0.0145	0.0196
Citizenship Status			
Uscitizen	0.8116	0.7565	0.8176
noncitizen	0.0413	0.1557	0.0288
Ethnicity			
Otherhispan	0.0458	0.4250	0.0044
Purtorican	0.0113	0.1050	0.0011
Mexican	0.0596	0.5306	0.0083
Cuban	0.0013	0.0089	0.0004
latinam	0.0068	0.0553	0.0015
Race			
Asian	0.0165	0.0062	0.0176
Black	0.1283	0.0032	0.1419
White	0.5600	0.0443	0.6162
Hispanic	0.0982	1.0000	0.0000

Inalas	0.0093	0.0014	0.0102
Other	0.0111	0.0157	0.0106
Other Factors			
Entry Pay Grades			
enpygrade1	0.2466	0.2642	0.2446
enpygrade2	0.3691	0.3958	0.3662
enpygrade3	0.2681	0.2442	0.2708
enpygrade4	0.0482	0.0441	0.0486
enpygrade5	0.0680	0.0517	0.0698
Pay Grades at the end			
payend1	0.0672	0.0395	0.0701
payend2	0.0931	0.0552	0.0972
payend3	0.3068	0.2712	0.3106
payend4	0.4147	0.5186	0.4034
payend5	0.1183	0.1156	0.1186

5. Descriptive Statistics for Air Force Enlistees

Table 9 provides variable means for all observations in the Air Force data set. Early attrition rate for Hispanics are 8 and 10 percentage points lower than for non-Hispanics, respectively. Moreover, retention and promotion to E4 rates for the Hispanics are almost 8 percentage points and 5 percentage points higher, respectively.

Hispanics comprise almost 4 percent of all Air Force enlistees. 48 percent of all Hispanic enlistees are Mexican, 51 percent are other Hispanic descent, 17 percent are Puerto Rican, while only about 1 percent are Cuban and Latin American.

The rate of married Hispanics at entry is 2 percentage points higher than for non-Hispanics. Unlike in other services, this difference increases only 2 percentage points at the end of the first term. The difference between the proportions of dependent numbers at entry is less than 1 percentage point lower for Hispanics. However, this difference turns out to be 9 percentage points higher for Hispanics at the end of the first term.

Although the differences between the number of AFQT category 4 and AFQT category 5 Hispanic and non-Hispanic people are negligible with around 1 percentage point, there are notable differences in the AFQT category 1, 2 and cat 3. The proportion of Hispanics in category 3 is 13 percentage points higher than that of non-Hispanics.

However, average number people in category 1 and category 2 are 3 and 9 percentage points lower for Hispanics, respectively. The average rate of Hispanic and non-Hispanic enlistees in all tiers is almost the same.

Table 9. Mean Characteristics of Hispanics, Non-Hispanics and enlistees in the Air Force

	All	Hispanic	Non-Hispanic
Dependent Variables			
Attrite6	0.1426	0.0681	0.1459
Attrite45	0.2504	0.1549	0.2546
Reenlist	0.5257	0.6028	0.5223
E4	0.5751	0.6310	0.5726
Characteristic Variables			
Female	0.2108	0.2185	0.2104
married	0.4055	0.4311	0.4045
marriedend	0.5295	0.5700	0.5277
Age	24.2042	24.0543	24.2126
Afqtperc	64.0379	58.9443	64.2758
afqtcat1	0.1000	0.0679	0.1015
afqtcat2	0.3946	0.3045	0.3988
afqtcat3	0.4833	0.6082	0.4775
afqtcat4	0.0128	0.0151	0.0127
afqtcat5	0.0000	0.0000	0.0000
Depnum	1.5695	1.5681	1.5699
depnumend	1.5461	1.6374	1.5423
Educational Characteristics			
tier1	0.8852	0.8931	0.8848
tier2	0.1080	0.0994	0.1084
tier3	0.0068	0.0075	0.0068
Citizenship Status			
Uscitizen	0.8057	0.8295	0.8045
Noncitizen	0.0131	0.0504	0.0114
Race			
Asian	0.0188	0.0504	0.0114
Black	0.1552	0.0032	0.0195
White	0.6807	0.0049	0.1622
Hispanic	0.0442	0.0424	0.7103
Inalas	0.0057	0.0006	0.0059
Ethnicity			

otherhispan	0.0239	0.5115	0.0014
puertorican	0.0083	0.1703	0.0008
Mexican	0.0231	0.4827	0.0018
Cuban	0.0009	0.0113	0.0004
Latinam	0.0011	0.0110	0.0006
Other Factors			
Entry Pay Grades			
enpygrade1	0.1945	0.2215	0.1931
enpygrade2	0.2240	0.2469	0.2229
enpygrade3	0.1868	0.1728	0.1875
enpygrade4	0.1458	0.1229	0.1469
enpygrade5	0.2489	0.2359	0.2496
Pay Grades at the end			
payend1	0.0328	0.0259	0.0330
payend2	0.0541	0.0412	0.0547
payend3	0.2589	0.2434	0.2596
payend4	0.3746	0.4246	0.3724
payend5	0.2796	0.2649	0.2803

G. MODEL SPECIFICATIONS

Due to the different personnel policies of the services, separate models were used for all four services in order to measure the performance of enlistees. We used multivariate models to partition out the effects of independent variables like married, age, and AFQT score on the dependent variables. Below, we briefly describe each model.

1. Model of Early (Six-Month) Attrition and First-Term Attrition

Our models of early attrition and first-term attrition were based on the existing attrition literature. In addition, we analyzed the effect of the different subcategories of Hispanic ethnicity on attrition. The reason for this separation is the potential dissimilarities in aptitudes and behavior among Hispanic subgroups.

Multivariate probit models were used to estimate the probability of attrition and first-term attrition. We looked at both early attrition (attrition in first six months) and first-term attrition (attrition in the first 45 months). The model for both attrition types are specified as follows:

$$\begin{aligned}\Pr(\text{Attrition}=1) = {} & \beta_0 + \beta_1 Mexican + \beta_2 Otherhispan + \beta_3 Puertorican \\ & + \beta_4 Cuban + \beta_5 Latinam + \beta_6 Race + \beta_7 Demographics \\ & + \beta_8 AfqtPerc + \beta_9 Education + \beta_{10} CitizenshipStatus \\ & + \beta_{11} Enpygrade + \varepsilon_i\end{aligned}$$

The category with the majority of observations in each variable group was chosen as the base case. The base case for the model is: white, male, single, Tier 1, U.S. citizen, entry pay grade 1. Table 10 lists the estimated effects of each variable. The race category includes Asian, black, inalas and other variables. Hispanic variable is excluded from the equation since we included subgroups of Hispanics. The marginal effect of each variable is calculated as the change in the probability of attrition when an explanatory variable is increased by one unit (or a discrete change from zero to one) and all other variables are kept constant.

2. Model of Retention Beyond the First Term

This model is also specified based on the retention literature. The sample of the retention model is not restricted to only enlistees who completed the first term. The reason behind the inclusion of all enlistees is based on the idea that the attrition behavior of an enlistee is an implicit decision not to reenlist or a lack of interest in reenlistment.[130] However, due to the limitations in the data set, FY2001 cohort was excluded in the regressions. The last observation in the data set belongs to the FY2005. Since the data were recorded on 30 September of each fiscal year, it was not possible to track the reenlistment behavior of all enlistees in cohort 2001. The race category includes Asian, black, American Indian and Alaskan (*inalas*) and other variables. The Hispanic category is excluded from the equation since we included subgroups of Hispanics.

The probability of retention beyond the first term was modeled as follows:

[130] M. Hansen, J. Wenger, "Why Do Pay Elasticity Differ?" Center for Naval Analyses, Alexandria, VA, March 2002.

$$\begin{aligned}\Pr(\text{Retention}=1) = \Phi(&\beta_0 + \beta_1 Mexican + \beta_2 Otherhispan + \beta_3 Puertorican \\ &+ \beta_4 Cuban + \beta_5 Latinam + \beta_6 Race \\ &+ \beta_7 Demographics + \beta_8 AfqtPerc + \beta_9 Education \\ &+ \beta_{10} CitizenshipStatus + \beta_{11} PayEnd + \beta_{12} Cohort \\ &+ \beta_{13} Unemp + \beta_{14} MOS + \varepsilon i)\end{aligned}$$

The base case for the model is: white, male, single, Tier 1, U.S. citizen, Entry Pay Grade1, and cohort 93. We calculate the marginal effects the same way as in the attrition models.

3. Model of Promotion to E4 in the First Term

The promotion model specified for this study is based on the literature review of promotion studies discussed earlier. We chose promotion to E4 rank as the indicator of promotion. This is because the rates of promotion to E5 were too low to be analyzed and promotion to E3 was almost automatic (when a soldier met time-in-service and time-in-grade requirements). However, promotion to E4 proved to be competitive among enlistees. The sample included only personnel who completed their first term.

The probit models used to measure the promotion to E4 are as follows:

$$\begin{aligned}\Pr(\text{Promotion}=1) = \Phi(&\beta_0 + \beta_1 Mexican + \beta_2 Otherhispan + \beta_3 Puertorican \\ &+ \beta_4 Cuban + \beta_5 Latinam + \beta_6 Race \\ &+ \beta_7 Demographics + \beta_8 AfqtPerc + \beta_9 Education \\ &+ \beta_{10} CitizenshipStatus + \beta_{11} Enpygrade + \beta_{12} MOS + \varepsilon_i)\end{aligned}$$

The base case for model 1 is: white, male, single, Tier 1, U.S. citizen, pay grade 1 at the end of the first term, and cohort 92. The principles of calculating the marginal effects are the same with the attrition models.

H. ESTIMATED EFFECTS OF EXPLANATORY VARIABLES

Hispanics are expected to have lower rates of early attrition and first-term attrition and higher rates of promotion and retention. This hypothesis is based on prior studies of Hispanics who served in the U.S. military. Interviews showed that there is a great deal of

determination, optimism and dedication among Hispanic recruits.[131] Also, the interviews suggest that Hispanics take the opportunity to serve in the U.S. military seriously and try to do their best.

Not only being Hispanic but also belonging to a subgroup of Hispanic ethnicity is hypothesized to be associated with lower attrition rates compared to non-Hispanics. The findings of Hattiangadi, Lee and Quester suggest that both Hispanic ethnicity and different ethnic backgrounds of Hispanics are associated with lower attrition.[132] It was also found that Hispanics had the lowest early attrition and the second-lowest first-term attrition rates among Army recruits.[133] Moreover, Quester and Kimble state that Hispanics had the lowest attrition rate in the 45 months in the Marine Corps.[134] This is also consistent with the study of Wenger and Hodari that suggests that Hispanics had the lowest attrition rates in all services after the Asian-Pacific Islander ethnic group.[135]

The same factors that explain why Hispanics attrite at lower rates also may explain why their reenlistment propensities beyond the first term are higher. The results of a study by Warner, and Solon suggest that Hispanics in the Army have a higher probability of continuing to a second term.[136] In addition, Cooke and Quester found that Hispanics in the Navy complete their first terms at a higher rate than non-Hispanics.[137] This result is consistent with the study of Kapur and Buddin.[138] In contrast, Hansen and Wenger found that Navy Hispanic enlistees had a lower retention rate than non-

131 A. U. Hattiangadi, G. Lee and A. O. Quester, "Recruiting Hispanics: The Marine Corps Experience Final Report," The Rand Corporation, Santa Monica, CA, March 2004.

132 Ibid.

133 Ibid.

134 A. O. Quester, Theresa H. Kimble, "Final Report: Street-to-Fleet Study Volume I: Street-to-Fleet for the Enlisted Force," Center for Naval Analyses, Alexandria, VA, 2001.

135 Jennie W. Wenger and Apriel K. Hodari, "Predictors of Attrition: Attitudes, Behaviors, and Educational Characteristics," Center for Naval Analyses, Alexandria, VA, July 2004.

136 John Warner and, Gary Solon, "First Term Attrition and Reenlistment in the U.S. Army," in CurtisL. Gilroy, David K. Horne, and D. Alton Smith, eds., Military Compensation and Personnel Retention: Models and Evidence, Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, 1991.

137 T. W. Cooke, A. O. Quester, "Who stays and Who Leaves? Identifying successful Navy Recruits," Center For Naval Analyses, Alexandria, VA, 1988.

138R. Buddin and K. Kapur, "Tuition Assistance Usage and First-Term Military Retention," The Rand Corporation, Santa Monica, CA,March 2002.

Hispanics. The difference of this study was the longer time span during which retention behavior was analyzed (FY1987 to FY1999).

This thesis also hypothesizes that Hispanics will have higher promotion rates to E-4 in the first term. The results of the study of Cooke and Quester suggest that Hispanics promote to E-4 rank at higher rates than non-Hispanics.[139] Moreover, a second study by the authors ended up with the same conclusion.[140]However, their Hispanics variables were not detailed. In our data set, subgroups of Hispanic variables are divided into 4 categories.

Many of the models reviewed in the literature included race/ethnic variables other than white. They usually were correlated with higher retention and promotion rates but with lower early attrition and first-term attrition rates. This is probably due to the socioeconomic conditions of minorities. Quester and Kimble found that blacks and other race/ethnicity groups had lower attrition rates than whites.[141] Likewise, Buddin found that Asians and African Americans had lower first-term and early attrition rates.[142] Hattiangadi, Lee and Quester found that Asian, black and other race/ethnic backgrounds had lower first-term attrition effects than whites.[143] Hence, we expect that all minorities would have lower attrition rates in our analysis.

For the retention models, historical evidence showed different results for other minorities. Buddin found that African Americans had lower retention rates, but Asians had higher retention rates.[144] Nevertheless, Quester and Cooke found that black enlistees

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139 T. W. Cooke, A. O. Quester, "Who stays and Who Leaves? Identifying successful Navy Recruits," Center for Naval Analyses, Alexandria, VA, 1988.

140 Cooke and Quester, "What Characterizes Successful Enlistees in the All-Volunteer Force: A Study of Male Recruits in the U.S; Navy." Social Science Quarterly 73, no. 2(1992):238-251.

141 A. O. Quester, Theresa H. Kimble, "Final Report: Street-to-Fleet Study Volume I: Street-to-Fleet for the Enlisted Force," Center for Naval Analyses, Alexandria, VA, 2001.

142 Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA, 2002.

143 A. U. Hattiangadi, G. Lee and A. O. Quester, "Recruiting Hispanics: The Marine Corps Experience Final Report," The Rand Corporation, Santa Monica, CA, March 2004.

144 Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," Center for Naval Analyses, Alexandria, VA, 2002.

had higher retention rates.[145] This result was consistent with that of Warner and Solon.[146] The reason for different results probably stemmed from differences in the service branch and time period in each analysis. We try to shed light into these discrepancies by providing more evidence on the retention behavior of minorities.

Promotion studies showed that minorities usually have higher promotion rates. For example, Cooke and Quester found that minorities reach E-4 faster than whites.[147] However, Buddin found that Asians promote to E-5 rank in lower proportions than whites.[148] Obviously the difference is with the rank chosen here. As a result, we expect non-Hispanic minorities to be more likely to promote to E4.

Females generally are linked to higher attrition rates in the literature. Hattiangadi, Lee and Quester found that females had higher attrition rates than males.[149] On the other hand, it was found that females had higher retention and promotion rates.[150] Therefore, the female variable is hypothesized to be associated with higher retention promotion, but with higher attrition rates.

Prior studies suggest that marriage and dependents at entry are associated with higher attrition rates.[151] Wenger and Hodari suggest that this effect may be due to the additional demands that family may exert upon the time of the servicemen.[152] However, being married pays off in retention and promotion. For example, Quester and Adedeji

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145 Cooke and Quester, "What Characterizes Successful Enlistees in the All-Volunteer Force: A Study of Male Recruits in the U.S; Navy." Social Science Quarterly 73, no. 2(1992):238-251.

146 John Warner and, Gary Solon, "First Term Attrition and Reenlistment in the U.S. Army," in CurtisL. Gilroy, David K. Horne, and D. Alton Smith, eds., Military Compensation and Personnel Retention: Models and Evidence, Alexandria, Va.: U.S. Army Research Institute for the Behavioral and Social Sciences, 1991, pp. 243–280.

147 T. W. Cooke, A. O. Quester, "Who stays and Who Leaves? Identifying successful Navy Recruits," Center for Naval Analyses, Alexandria, VA, 1988.

148 Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA 2002.

149 A. U. Hattiangadi, G. Lee and A. O. Quester, "Recruiting Hispanics: The Marine Corps Experience Final Report," The Rand Corporation, Santa Monica, CA, March 2004.

150 Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA, 2002.

151 Ibid.

152 Jennie W. Wenger and Apriel K. Hodari, "Predictors of attrition: Attitudes, Behaviors, and Educational Characteristics," Center for Naval Analyses, July 2004.

found that married Marines had higher retention rates.[153] The results of Buddin are also supportive of this.[154] We also hypothesize that being married at entry will be associated with higher attrition and promotion rates, and being married at the end of the first term will be associated with higher retention rates. However, since no studies in the literature included number of dependents as a separate independent variable, the effects of number of dependents can go either way.

A higher AFQT percentile generally is associated with lower rates of attrition and promotion rates. Buddin[155] states that higher AFQT scores and Tier 1 status results in lower rates of attrition. Quester and Kimble are also supportive of this result. Cooke and Quester state that higher AFQT and HSDG status are associated with lower attrition and higher retention and promotion rates. However, the results of a study by Quester and Adedeji suggest that higher-quality Marines have lower reenlistment rates.[156]

It is not clear how age affects success. Most of the studies did not include age in their models. Buddin found that age at entry is associated with higher early attrition and reenlistment rates, but lower first-term attrition and promotion to E-5 rates.[157] Wenger and Hodari found that ages greater than 19 at entry were associated with lower attrition rates in the first term, and age 17 at entry was associated with higher attrition rates.

The results of Hattiangadi, Lee and Quester show that non-citizens are more likely to succeed in the first term.[158] In addition, results of a study by O'Neil and Senturk suggest that non-citizens also have higher rates of retention, promotion and lower rates of attrition.[159] However, none of the studies included in the literature review

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153 A. Quester, M. Adedeji, "Reenlisting in the Marine Corps: The Impact of Bonuses, Grade, and Dependency Status," Center for Naval Analyses, Alexandria, VA, July 1991.

154 Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA, 2002.

155 Ibid.

156 T. W. Cooke, A. O. Quester, "Who stays and Who Leaves? Identifying successful Navy Recruits," Center for Naval Analyses, Alexandria, VA, 1988.

157 Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA, 2002.

158 A. U. Hattiangadi, G. Lee and A. O. Quester, "Recruiting Hispanics: The Marine Corps Experience Final Report," The Rand Corporation, Santa Monica, CA, March 2004.

159 L. G. O'Neil, O. S. Senturk, "Noncitizens in the US Military," Naval Postgraduate School, March 2004.

involved the citizenship origin variable. Hence, although the non-citizenship variable is hypothesized to be associated with lower attrition and higher retention and promotion rates, the effect of national origin is not predictable.

Days and Ang found that entry pay grades have different effects on reenlistment.[160] Other than this, none of the prior studies included entry pay grades as a control variable in the models. Hence, the hypothesis for the effect of entry pay grade is indeterminate. Although no study reviewed included pay grade at the end of the first term, it is a fact that the reenlistment decision of an enlistee is usually linked with the prospects of promotion. Enlistees who have a lower likelihood of being promoted usually tend to leave the service at the end of the first term.[161] The author hypothesized that higher pay grades at the end of the first term is associated with higher rates of reenlistment.

Local home of record state unemployment rates should be associated with higher rates of reenlistment decisions. As the unemployment rates rise, the likelihood of finding a civilian job decreases for potential enlistees. A study by Adedeji and Quester found that civilian unemployment rates are associated with higher reenlistment rates.[162] The implicit assumption in our study is that most enlistees will return to their home states to pursue civilian careers (hence we use unemployment rates for the home state). In the absence of other information, this is the best assumption we can make.

It is difficult to hypothesize the effects of MOSs. By using the first three letters of the job specialty, 227 dummy MOSs were created for the Marine Corps, 108 for the Air Force, and 217 for the Navy. Due to the limitations of the statistical package we used only the first two letters of the Army MOS to create 65 dummy variables.[163] Because of the relatively large number of dummy MOS variables, we did not display them in the

[160] J. H. Days and Y. L. Ang, "An empirical examination of JROTC Participation on enlistment, Retention and attrition," Naval Postgraduate School, Monterey, CA, December 2004.

[161] Richard J. Buddin, "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics," The Rand Corporation, Santa Monica, CA, 2002.

[162] A. Quester, M. Adedeji, "Reenlisting in the Marine Corps: The Impact of Bonuses, Grade, and Dependency Status," Center for Naval Analyses, Alexandria, VA,July 1991.

[163] We used Stata 9.2 for this analysis. The large number of explanatory variables that would have resulted from using the first three letters for the Army MOSs slowed estimations down substantially in addition to greatly reducing the degrees of freedom. Therefore, we used the first two letters to create dummy MOS variables for the Army.

results part in the text. However, appendix C includes full regression results for the models that included MOS. A summary of the hypothesized effects of the explanatory variables are presented in Table 11.

Table 10. Hypothesized effects of Variables

VARIABLE NAMES	EARLY ATTRITION	FIRST TERM ATTRITION	RETENTION	PROMOTION TO E4
HISPANIC	-	-	+	+
MEXICAN	-	-	+	+
OTHERHISPAN	-	-	+	+
PUERTORICAN	-	-	+	+
CUBAN	-	-	+	+
LATINAM	-	-	+	+
ASIAN	-	-	+	+
BLACK	-	-	?	+
OTHER	-	-	+	+
FEMALE	+	+	+	+
MARRIED	+	+	Not included	+
MARRIEDEND	Not included	Not included	+	Not included
AGE	?	?	?	?
DEPNUM	?	?	Not included	?
DEPNUMEND	Not included	Not included	+	Not included
AFQTPERC	-	-	?	+
TIER2	-	-	?	+
TIER3	-	-	?	+
MOS	Not included	Not included	?	?

I. RESULTS

1. Early (Six-Month) Attrition

The results of the early attrition models for all services are presented in Table 11. Most coefficients are significant at the 1-percent level. Negative coefficients indicate a lower likelihood of attrition associated with the predictor variable while positive coefficients indicate a higher probability of attrition. The marginal effects of each of the predictor variables in the regression are shown in Table 12. The base case for each category is the last (bold) entry in each variable category.

The individual Hispanic ethnic categories are associated with a lower probability of early attrition as hypothesized. However, the Latin American category in the Air

Force was found to be insignificant. Hispanics have significant predicted attrition rates that range from 3 percentage points lower (Other Hispanics in the Air Force) to 24 percentage points lower (Puerto Ricans in Navy) than Non-Hispanics. In almost every case Hispanics in the Navy have the lowest attrition rates.

One of the variables with no prior hypothesized effect, depnum, has a negative coefficient. This suggests that people with more dependents have lower attrition rates. This is probably because they have more financial responsibilities than those without dependents. However, in the Navy, number of dependents has a positive effect on early attrition rates.

Another indeterminate variable, entry pay grade, has negative effects on early attrition. The higher the pay grade an enlistee has at entry to the service the less likely he is to attrite in the first 6 months. As hypothesized, being in Tier 2 or Tier 3 is positively associated with early attrition. The variable "age" is associated with higher attrition. This implies that each additional year of age decreases the probability of completing the first 6 months.

Contrary to our hypothesis, non-citizens appear to attrite at higher rates from the Air Force and Marine Corps. Females have significantly lower estimated early attrition rates than males in the Navy (4 percentage points), which is contrary to our hypothesis. This may be due to the time encompassed in our study. In other services the coefficient sign is positive as hypothesized, except for the Marine Corps, where the coefficient is insignificant.

All minorities display lower early attrition rates. Moreover, being married at entry is associated with higher attrition, except for the Navy where the effect is insignificant. These results are consistent with our hypothesis.

Table 11. Probit Regression Estimates for Early (6-Month) Attrition Models

VARIABLES	ARMY	NAVY	AIR FORCE	MARINE CORPS
mexican	-0.3325	-0.6067	-0.5480	-0.6253
	(0.0189)***	(0.0114)***	(0.0228)***	(0.0140)***
otherhispan	-0.4642	-0.3729	-0.2341	-0.4638
	(0.0187)***	(0.0083)***	(0.0206)***	(0.0174)***
puertorican	-0.4710	-0.6291	-0.7052	-0.6562
	(0.0213)***	(0.0173)***	(0.0389)***	(0.0337)***
cuban	-0.2389	-0.1826	-0.4358	-0.4410
	(0.0806)***	(0.0469)***	(0.1103)***	(0.0899)***
latinam	-0.4267	-0.6454	-0.0668	-0.4392
	(0.0375)***	(0.0305)***	(0.0902)	(0.0366)***
asian	-0.6825	-0.7264	-0.6370	-1.0671
	(0.0207)***	(0.0102)***	(0.0235)***	(0.0321)***
black	-0.5069	-0.4728	-0.4360	-0.8657
	(0.0064)***	(0.0048)***	(0.0081)***	(0.0116)***
other	-0.4407	-0.5501	-0.6078	-1.0117
	(0.0162)***	(0.0313)***	(0.0319)***	(0.0398)***
inalas	-0.6118	-0.4996	-0.3470	-0.8371
	(0.0328)***	(0.0142)***	(0.0384)***	(0.0389)***
female	0.0377	-0.1186	0.0278	0.0626
	(0.0066)***	(0.0047)***	(0.0061)***	(0.0116)***
married	0.2095	-0.1911	0.1548	0.6242
	(0.0074)***	(0.0059)***	(0.0076)***	(0.0122)***
age	0.0834	0.0271	0.0499	0.0354
	(0.0007)***	(0.0006)***	(0.0010)***	(0.0015)***
afqtperc	-0.6016	-0.6038	-0.7023	-0.6009
	(0.0001)***	(0.0001)***	(0.0002)***	(0.0002)***
depnum	-0.1441	0.0884	-0.2362	-0.5528
	(0.0030)***	(0.0024)***	(0.0032)***	(0.0061)***
tier2	0.6310	0.4287	0.4593	0.2962
	(0.0078)***	(0.0056)***	(0.0099)***	(0.0134)***
tier3	0.5927	0.4016	0.1637	0.5847
	(0.0118)***	(0.0086)***	(0.0308)***	(0.0182)***
noncitizen	-0.3258	-0.1818	0.4830	0.3054
	(0.0260)***	(0.0099)***	(0.0205)***	(0.0147)***
enpygrade2	-0.0234	-0.0222	-0.1085	-0.0561
	(0.0076)***	(0.0049)***	(0.0074)***	(0.0066)***
enpygrade3	-0.1229	-0.1554	-0.0476	-0.5154
	(0.0082)***	(0.0053)***	(0.0082)***	(0.0093)***
enpygrade4	-0.0671	-0.0064	-0.2669	-0.4449
	(0.0086)***	(0.0063)	(0.0110)***	(0.0188)***
enpygrade_5	-0.6784	-0.4593	-0.1917	-0.3233
	(0.0114)***	(0.0079)***	(0.0149)***	(0.0236)***
Constant	-2.1386	0.0510	-1.7292	-1.0761
	(0.0176)***	(0.0127)***	(0.0210)***	(0.0293)***
Observations	346432	597746	456413	323702

Notes: All regressions include cohort dummies. Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 12. Probit Partial Effects for Early (6-Month) Attrition Models

VARIABLES	ARMY	NAVY	AIR FORCE	MARINE CORPS
mexican	-0.1039	-0.2372	-0.0704	-0.0959
	(0.0052)***	(0.0042)***	(0.0019)***	(0.0014)***
otherhispan	-0.1384	-0.1479	-0.0368	-0.0772
	(0.0046)***	(0.0032)***	(0.0028)***	(0.0021)***
puertorican	-0.1397	-0.2451	-0.0805	-0.0950
	(0.0052)***	(0.0063)***	(0.0023)***	(0.0029)***
cuban	-0.0768	-0.0724	-0.0593	-0.0725
	(0.0238)***	(0.0187)***	(0.0106)***	(0.0107)***
latinam	-0.1283	-0.2509	-0.0116	-0.0725
	(0.0095)***	(0.0110)***	(0.0150)	(0.0044)***
asian	-0.1864	-0.2804	-0.0769	-0.1208
	(0.0041)***	(0.0036)***	(0.0017)***	(0.0014)***
black	-0.1612	-0.1868	-0.0653	-0.1275
	(0.0018)***	(0.0019)***	(0.0010)***	(0.0011)***
other	-0.1327	-0.2159	-0.0742	-0.1176
	(0.0041)***	(0.0117)***	(0.0023)***	(0.0018)***
inalas	-0.1710	-0.1970	-0.0503	-0.1080
	(0.0068)***	(0.0054)***	(0.0043)***	(0.0024)***
WHITE (NON-HISPANIC)	**BASE**	**BASE**	**BASE**	**BASE**
mexican	-0.1039	-0.2372	-0.0704	-0.0959
	(0.0052)***	(0.0042)***	(0.0019)***	(0.0014)***
MALE	**BASE**	**BASE**	**BASE**	**BASE**
married	0.0737	-0.0754	0.0286	0.1630
	(0.0027)***	(0.0023)***	(0.0014)***	(0.0037)***
SINGLE	**BASE**	**BASE**	**BASE**	**BASE**
age	0.0288	0.0106	0.0091	0.0076
	(0.0003)***	(0.0002)***	(0.0002)***	(0.0003)***
afqtperc	-0.0205	-0.0215	-0.0304	-0.0202
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
depnum	-0.0498	0.0347	-0.0429	-0.1183
	(0.0010)***	(0.0009)***	(0.0006)***	(0.0012)***
tier2	0.1853	0.1697	0.0664	0.0545
	(0.0019)***	(0.0022)***	(0.0011)***	(0.0021)***
tier3	0.2254	0.1591	0.0268	0.1639
	(0.0047)***	(0.0034)***	(0.0045)***	(0.0062)***
TIER1	**BASE**	**BASE**	**BASE**	**BASE**
noncitizen	-0.1018	-0.0720	0.1146	0.0757
	(0.0072)***	(0.0040)***	(0.0060)***	(0.0041)***
US CITIZEN	**BASE**	**BASE**	**BASE**	**BASE**
enpygrade2	-0.0081	-0.0087	-0.0190	-0.0119
	(0.0027)***	(0.0019)***	(0.0012)***	(0.0014)***

enpygrade3	-0.0416	-0.0603	-0.0085	-0.0955
	(0.0027)***	(0.0020)***	(0.0014)***	(0.0015)***
enpygrade4	-0.0234	-0.0025	-0.0431	-0.0751
	(0.0030)***	(0.0025)	(0.0016)***	(0.0024)***
enpygrade_5	-0.2531	-0.1815	-0.0326	-0.0587
	(0.0044)***	(0.0031)***	(0.0024)***	(0.0036)***
ENTRY PAY GRADE 1	**BASE**	**BASE**	**BASE**	**BASE**
Observations	346432	597746	456413	323702

Notes: All regressions include cohort dummies. Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

2. First Term Attrition

The results of the first term attrition models for all services are presented in Table 13 and Table 14. Table 13 includes the probit estimates and Table 14 includes partial effects of probit estimates. The last (bold) entry in each variable category is the base case.

As hypothesized, all Hispanic ethnic backgrounds have lower first term attrition probabilities compared to white non-Hispanic enlistees and all of the estimates for Hispanic backgrounds are significant at the 1-percent level. The attrition rates of Hispanics range from 5 percentage points lower (Other Hispanic in Air Force) to 24 percentage points lower (Latin Americans in Navy) compared to white non-Hispanics. There is a remarkable decrease in the probability of attrition of Hispanics when the survival period increases from the first six months to the 45-month period. This implies that, among those who survive the first 6 months, the probability of attrition decreases for Hispanic enlistees. Similar to the early attrition results, the lowest probability of first-term attrition rates for Hispanics are seen in the Navy.

One of the indeterminate variables, number of dependents, is associated with a lower probability of first term attrition, except for the Navy. This can be explained by the financial responsibilities of enlistees with dependents. It could be that having more dependents increases the need for financial security, and increase incentives for the enlistee to avoid attrition in the first term. Another indeterminate variable, entry pay grade, has negative effects on early attrition. This suggests that the higher the pay grade an enlistee has at service entry, the lower the probability of attriting in the first term.

Perhaps people who enlist at higher pay grades perceive their career prospects in the military to be better and therefore perform better.

The other indeterminate variable, age, is associated with higher estimated attrition rates. Similar to 6-month-attrition results, one more year of age at entry is associated with higher predicted probability of attrition in the first 45 months. As hypothesized, being in Tier 2 and Tier 3 has a positive effects on first term attrition. Another variable that has a positive coefficient is being married. This implies that married people have higher estimated probabilities of attrition than do single enlistees. However, this variable is not significant in the Navy.

As the period analyzed increases from six months to 45 months, the probability of attrition becomes negative for non-citizens in the Army. However, contrary to our original hypothesis, the sign of the coefficients for noncitizens in the Air Force and Marine Corps are still positive, implying that non-citizen enlistees have higher estimated attrition rates than US citizens. As hypothesized, AFQT percentile and minority variables are associated with lower estimated probabilities of first term attrition.

Table 13. Probit Estimates for First Term Attrition Models

VARIABLES	**ARMY**	**NAVY**	**AIR FORCE**	**MARINE CORPS**
mexican	-0.4639	-0.5769	-0.5479	-0.6282
	(0.0171)***	(0.0113)***	(0.0178)***	(0.0120)***
otherhispan	-0.4557	-0.3670	-0.2150	-0.4357
	(0.0168)***	(0.0083)***	(0.0175)***	(0.0147)***
puertorican	-0.5235	-0.6063	-0.5562	-0.4730
	(0.0195)***	(0.0172)***	(0.0283)***	(0.0266)***
cuban	-0.2612	-0.1664	-0.4727	-0.3192
	(0.0742)***	(0.0469)***	(0.0949)***	(0.0767)***
latinam	-0.5494	-0.6276	-0.3891	-0.4700
	(0.0340)***	(0.0301)***	(0.0851)***	(0.0332)***
asian	-0.6474	-0.7090	-0.5386	-0.7732
	(0.0181)***	(0.0101)***	(0.0186)***	(0.0232)***
black	-0.4634	-0.4480	-0.2734	-0.4643
	(0.0059)***	(0.0048)***	(0.0066)***	(0.0083)***
other	-0.4689	-0.5212	-0.4112	-0.6220
	(0.0149)***	(0.0312)***	(0.0241)***	(0.0269)***
inalas	-0.4539	-0.4406	-0.2619	-0.4762
	(0.0280)***	(0.0141)***	(0.0323)***	(0.0274)***
female	0.2117	-0.0904	0.0992	0.2357
	(0.0062)***	(0.0047)***	(0.0054)***	(0.0104)***

married	0.0718	-0.1729	0.0542	0.3596
	(0.0072)***	(0.0059)***	(0.0069)***	(0.0107)***
age	0.0659	0.0267	0.0339	0.0286
	(0.0007)***	(0.0006)***	(0.0009)***	(0.0013)***
afqtperc	-0.0626	-0.0636	-0.0628	-0.0625
	(0.0001)***	(0.0001)***	(0.0001)***	(0.0001)***
depnum	-0.0276	0.0749	-0.1298	-0.2902
	(0.0029)***	(0.0024)***	(0.0029)***	(0.0050)***
tier2	0.3657	0.3810	0.3497	0.0544
	(0.0071)***	(0.0056)***	(0.0091)***	(0.0109)***
tier3	0.3750	0.3957	0.3832	0.3473
	(0.0119)***	(0.0086)***	(0.0300)***	(0.0182)***
noncitizen	-0.4943	-0.2172	0.1627	0.0531
	(0.0230)***	(0.0099)***	(0.0190)***	(0.0135)***
enpygrade2	-0.0009	-0.0059	-0.1377	-0.1814
	(0.0071)	(0.0049)	(0.0062)***	(0.0060)***
enpygrade3	-0.1626	-0.1040	-0.2792	-0.7303
	(0.0076)***	(0.0054)***	(0.0071)***	(0.0080)***
enpygrade4	-0.3951	-0.1691	-1.0093	-1.2418
	(0.0081)***	(0.0063)***	(0.0103)***	(0.0178)***
enpygrade_5	-0.0694	-0.5413	-0.9280	-1.3496
	(0.0110)	(0.0080)***	(0.0139)***	(0.0219)***
Constant	-1.2078	0.1425	-0.7253	-0.3652
	(0.0167)***	(0.0127)***	(0.0196)***	(0.0267)***
Observations	331704	596374	433317	307791

Notes: All regressions include cohort dummies. Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 14. Probit Partial Effects for First Term Attrition Models

VARIABLES	**ARMY**	**NAVY**	**AIR FORCE**	**MARINE CORPS**
mexican	-0.1728	-0.2269	-0.1192	-0.1708
	(0.0058)***	(0.0043)***	(0.0028)***	(0.0025)***
otherhispan	-0.1701	-0.1451	-0.0548	-0.1267
	(0.0057)***	(0.0033)***	(0.0040)***	(0.0036)***
puertorican	-0.1924	-0.2379	-0.1194	-0.1340
	(0.0063)***	(0.0065)***	(0.0043)***	(0.0061)***
cuban	-0.1006	-0.0654	-0.1055	-0.0958
	(0.0275)***	(0.0187)***	(0.0160)***	(0.0202)***
latinam	-0.2004	-0.2458	-0.0907	-0.1330
	(0.0108)***	(0.0112)***	(0.0159)***	(0.0076)***
asian	-0.2314	-0.2761	-0.1174	-0.1930
	(0.0054)***	(0.0037)***	(0.0029)***	(0.0038)***
black	-0.1780	-0.1764	-0.0703	-0.1380
	(0.0022)***	(0.0019)***	(0.0016)***	(0.0021)***
other	-0.1747	-0.2056	-0.0952	-0.1655
	(0.0051)***	(0.0120)***	(0.0044)***	(0.0052)***
inalas	-0.1690	-0.1743	-0.0651	-0.1346
	(0.0095)***	(0.0055)***	(0.0070)***	(0.0062)***
WHITE	**BASE**	**BASE**	**BASE**	**BASE**

(NON-HISPANIC)				
female	0.0842	-0.0352	0.0284	0.0833
	(0.0025)***	(0.0019)***	(0.0016)***	(0.0038)***
MALE	**BASE**	**BASE**	**BASE**	**BASE**
married	0.0285	-0.0674	0.0152	0.1274
	(0.0028)***	(0.0023)***	(0.0019)***	(0.0040)***
SINGLE	**BASE**	**BASE**	**BASE**	**BASE**
age	0.0261	0.0103	0.0095	0.0096
	(0.0003)***	(0.0002)***	(0.0003)***	(0.0004)***
afqtperc	-0.0210	-0.0214	-0.0208	-0.0208
	(0.0001)***	(0.0000)***	(0.0000)***	(0.0000)***
depnum	-0.0109	0.0290	-0.0363	-0.0971
	(0.0011)***	(0.0009)***	(0.0008)***	(0.0016)***
tier2	0.1436	0.1504	0.0938	0.0185
	(0.0026)***	(0.0022)***	(0.0019)***	(0.0038)***
tier3	0.1449	0.1565	0.1033	0.1260
	(0.0046)***	(0.0034)***	(0.0059)***	(0.0070)***
TIER 1	**BASE**	**BASE**	**BASE**	**BASE**
noncitizen	-0.1827	-0.0856	0.0485	0.0180
	(0.0076)***	(0.0039)***	(0.0060)***	(0.0047)***
US CITIZEN	**BASE**	**BASE**	**BASE**	**BASE**
enpygrade2	-0.0003	-0.0023	-0.0373	-0.0599
	(0.0028)	(0.0019)	(0.0016)***	(0.0020)***
enpygrade3	-0.0638	-0.0399	-0.0721	-0.2126
	(0.0029)***	(0.0020)***	(0.0017)***	(0.0020)***
enpygrade4	-0.1522	-0.0469	-0.2038	-0.2605
	(0.0030)***	(0.0025)***	(0.0014)***	(0.0018)***
enpygrade_5	-0.2037	-0.2127	-0.2062	-0.2770
	(0.0043)	(0.0031)***	(0.0024)***	(0.0020)***
ENTRY PAY GRADE 1	**BASE**	**BASE**	**BASE**	**BASE**
Observations	331704	596374	433317	307791

Notes: All regressions include cohort dummies. Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

3. Retention Beyond the First Term

The results of the retention models are shown in Table 15 and Table 16. Table 15 includes probit estimates and Table 16 includes partial effects of probit estimates. The last (bold) entry in each category is the base case. The full regression results, including the MOS dummies, are listed in Appendix C.

Most of the variables are significant at the 1-percent level for Hispanic ethnic backgrounds. Only Cuban background is insignificant in all services. This may be due to the small number of Cubans in our sample. As hypothesized, all categories of Hispanic ethnic background are associated with higher estimated retention rates. The predicted retention rates for Hispanics range from less than 1 percentage point higher (for enlistees of Mexican in the Navy) to 16 percentage points higher (for Puerto Ricans in Army) compared to non-Hispanic whites. Predicted retention rates for Hispanic enlistees are relatively higher in the Army than in other services.

All minorities, including blacks, for whom the hypothesized effect was indeterminate, have higher estimated reenlistment rates than non-Hispanic whites. Females have lower estimated retention rates in all services as hypothesized. For example, in the Navy the predicted effect of being female on retention is 3 percentage lower than that of males.

We also find that the number of dependents at the end of the first term is associated with a higher estimated probability of reenlistment. As hypothesized, Tier 2 and Tier 3 enlistees have higher retention rates than Tier 1 enlistees. Another variable whose hypothesized effect was indeterminate, pay grade at the end of the first term, is associated with higher reenlistment probabilities. As hypothesized, AFQT percentile is associated with lower predicted rates of reenlistment beyond the first term.

Table 15. Probit Estimates of Retention Beyond the First Term

	ARMY	NAVY	AIR FORCE	MARINE CORPS
mexican	0.2189	0.0192	0.4966	0.2215
	(0.0219)***	(0.0183)	(0.0467)***	(0.0132)***
otherhispan	0.1466	0.0362	-0.2436	0.1289
	(0.0218)***	(0.0149)**	(0.0366)***	(0.0151)***
puertorican	0.5532	0.2092	0.1374	0.4380
	(0.0327)***	(0.0339)***	(0.0561)**	(0.0283)***
cuban	-0.0963	-0.0389	-0.0162	0.1289
	(0.1031)	(0.0838)	(0.1257)	(0.0838)
latinam	0.1290	0.1363	1.4755	0.1269
	(0.0430)***	(0.0488)***	(0.4704)***	(0.0376)***
asian	0.1148	0.1737	0.1371	0.1266
	(0.0229)***	(0.0188)***	(0.0370)***	(0.0229)***
black	0.3063	0.2861	0.2597	0.3269
	(0.0089)***	(0.0097)***	(0.0119)***	(0.0094)***
other	0.3032	-0.0108	0.1528	0.1688
	(0.0212)***	(0.0531)	(0.0503)***	(0.0269)***
inalas	0.1088	0.0637	-0.0554	0.0610
	(0.0380)***	(0.0253)**	(0.0502)	(0.0317)*
female	0.0872	-0.1364	0.1058	0.0371
	(0.0105)***	(0.0096)***	(0.0114)***	(0.0144)***
marriedend	0.1241	0.1351	0.2284	0.1078
	(0.0120)***	(0.0121)***	(0.0110)***	(0.0122)***
age	0.0258	0.0264	0.0061	0.0249
	(0.0012)***	(0.0011)***	(0.0013)***	(0.0014)***
afqtperc	-0.0146	-0.0127	-0.0117	-0.0131
	(0.0002)***	(0.0002)***	(0.0002)***	(0.0002)***
depnumend	0.1524	0.0098	-0.0148	0.0404
	(0.0057)***	(0.0050)**	(0.0044)***	(0.0052)***
tier2	0.0312	0.4338	1.1190	0.1909
	(0.0116)***	(0.0116)***	(0.0157)***	(0.0138)***
tier3	0.3997	0.5335	0.2735	0.8387
	(0.0242)***	(0.0184)***	(0.0455)***	(0.0267)***
noncitizen	0.0323	0.1312	-0.3759	0.1286
	(0.0268)	(0.0193)***	(0.0763)***	(0.0168)***
payend2	0.0747	0.3500	1.6798	0.2635
	(0.0458)	(0.0460)***	(0.1013)***	(0.0464)***
payend3	0.3827	0.8813	1.5860	0.5299
	(0.0399)***	(0.0410)***	(0.0897)***	(0.0405)***
payend4	0.0245	1.2020	0.5312	0.8023
	(0.0381)	(0.0407)***	(0.0893)***	(0.0402)***
payend_5	0.4038	1.3357	1.1688	1.2156
	(0.0391)***	(0.0413)***	(0.0900)***	(0.0413)***
unemp	0.0592	0.0714	0.1267	0.0164
	(0.0029)***	(0.0029)***	(0.0033)***	(0.0028)***
Constant	-1.7855	-0.4146	-3.0149	-3.5698
	(0.0523)***	(0.0516)***	(0.0980)***	(0.0554)***
Observations	174514	238780	167142	208348

Notes: All regressions include cohort dummies. Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 16. Probit Partial effects for Retention Models

	Army	Navy	Air force	Marine Corps
mexican	0.0722	0.0041	0.0813	0.0772
	(0.0068)***	(0.0040)	(0.0054)***	(0.0048)***
otherhispan	0.0494	0.0076	0.0596	0.0441
	(0.0070)***	(0.0031)**	(0.0099)***	(0.0053)***
puertorican	0.1620	0.0398	0.0276	0.1603
	(0.0076)***	(0.0057)***	(0.0104)***	(0.0111)***
cuban	-0.0345	-0.0085	-0.0036	0.0442
	(0.0377)	(0.0187)	(0.0278)	(0.0297)
latinam	0.0436	0.0270	0.1301	0.0435
	(0.0140)***	(0.0089)***	(0.0068)***	(0.0133)***
asian	0.0390	0.0339	0.0276	0.0434
	(0.0075)***	(0.0033)***	(0.0069)***	(0.0081)***
black	0.1032	0.0556	0.0512	0.1146
	(0.0029)***	(0.0017)***	(0.0021)***	(0.0035)***
other	0.0975	-0.0023	0.0304	0.0584
	(0.0062)***	(0.0115)	(0.0091)***	(0.0097)***
inalas	0.0370	0.0132	-0.0124	0.0205
	(0.0125)***	(0.0050)***	(0.0116)	(0.0108)*
WHITE (NON-HISPANIC)	**BASE**	**BASE**	**BASE**	**BASE**
female	0.0300	-0.0307	0.0221	0.0124
	(0.0036)***	(0.0023)***	(0.0023)***	(0.0049)**
MALE	**BASE**	**BASE**	**BASE**	**BASE**
marriedend	0.0428	0.0280	0.0511	0.0363
	(0.0041)***	(0.0024)***	(0.0025)***	(0.0042)***
SINGLE	**BASE**	**BASE**	**BASE**	**BASE**
depnumend	0.0533	0.0021	-0.0032	0.0133
	(0.0020)***	(0.0011)**	(0.0010)***	(0.0017)***
age	0.0090	0.0057	0.0013	0.0082
	(0.0004)***	(0.0002)***	(0.0003)***	(0.0005)***
afqtperc	-0.0016	-0.0006	-0.0004	-0.0010
	(0.0001)***	(0.0000)***	(0.0001)***	(0.0001)***
tier2	0.0109	0.0772	0.1689	0.0661
	(0.0040)***	(0.0017)***	(0.0015)***	(0.0050)***
tier3	0.1243	0.0857	0.0508	0.3186
	(0.0065)***	(0.0021)***	(0.0071)***	(0.0104)***
TIER 1	**BASE**	**BASE**	**BASE**	**BASE**
noncitizen	0.0112	0.0262	-0.0985	0.0440
	(0.0092)	(0.0036)***	(0.0233)***	(0.0059)***
US CITIZEN	**BASE**	**BASE**	**BASE**	**BASE**
payend2	0.0256	0.0886	0.1350	0.0931
	(0.0154)*	(0.0134)***	(0.0015)***	(0.0173)***
payend3	0.1211	0.2449	0.1859	0.1859
	(0.0112)***	(0.0136)***	(0.0053)***	(0.0148)***
payend4	0.0086	0.2813	0.1052	0.2575

	(0.0134)	(0.0102)***	(0.0161)***	(0.0123)***
payend_5	0.1316	0.3523	0.2560	0.4480
	(0.0117)***	(0.0123)***	(0.0200)***	(0.0146)***
PAY GRADE 1	**BASE**	**BASE**	**BASE**	**BASE**
unemp	0.0207	0.0153	0.0275	0.0054
	(0.0010)***	(0.0006)***	(0.0007)***	(0.0009)***
COHORT93	**BASE**	**BASE**	**BASE**	**BASE**
Observations	254434	517152	430666	308689

Notes: All regressions include cohort dummies. Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

4. Promotion to E4 Model

The results of the promotion models for all services are presented in Table 17 and Table 18. Positive coefficients imply higher probability of promotion to E4 while negative coefficients imply negative probability of promotion to E4. Table 17 shows the probit estimates and Table 18 shows the partial effects of the variables included in the probit models. The base case is the last (bold) entry in each category. The full regression results, including the MOS dummies, are in Appendix D.

All Hispanics have positive coefficients indicating they promote to E4 at higher rates than do White non-Hispanic enlistees. However, the effect is insignificant for the Cuban subgroup in the Navy models. Likewise, the coefficient for the Latin American category was found to be insignificant for the Air Force. Promotion rates of Hispanics range from 4 percentage point higher (Other Hispanic in the Air Force) to 17 percentage points higher (Puerto Ricans in the Army) than non-Hispanics. The promotion rates of minorities vary throughout the services. Contrary to our hypothesis, females promote to E4 rank at lower rates than do males.

One of the indeterminate variables, age, has a negative effect on promotion to E4 in the Army and Marine Corps, as opposed to a positive effect in the Air Force and Navy. Other indeterminate variable, dependents, has a positive effect on promotion to E4 in the Army and Marine Corps while a negative effect in the Navy and Air Force. As hypothesized, the non-citizen variable has a positive effect on promotion to E4 rank in all services. This suggests that being a non-citizen increases the likelihood of being promoted to E4 rank.

Entering the service at higher pay grades increases the predicted probability of promotion to E4 in the first term. Another variable that is associated with higher promotion rates is being married. Being married increases the estimated probability of promotion to E4 rank. AFQT percentile is positively related to promotion to E4 rank as expected. Similarly, Tier 2 and Tier 3 enlistees have lower predicted promotion rates than do Tier 1 enlistees.

Table 17. Probit Estimates for Promotion to E-4 in the first Term

	ARMY	NAVY	AIR FORCE	MARINE CORPS
	E4	E4	E4	E4
mexican	0.4233	0.2903	0.3183	0.3726
	(0.0181)***	(0.0135)***	(0.0160)***	(0.0110)***
otherhispan	0.4494	0.2033	0.1198	0.1742
	(0.0202)***	(0.0108)***	(0.0182)***	(0.0129)***
puertorican	0.4415	0.2808	0.2971	0.2825
	(0.0241)***	(0.0232)***	(0.0262)***	(0.0248)***
cuban	0.1611	0.0807	0.2819	0.2750
	(0.0864)*	(0.0640)	(0.0941)***	(0.0713)***
latinam	0.4143	0.3279	0.0491	0.2391
	(0.0357)***	(0.0341)***	(0.0758)	(0.0311)***
asian	0.6538	0.3687	0.4108	0.4220
	(0.0224)***	(0.0132)***	(0.0180)***	(0.0201)***
black	0.4546	0.1811	0.1407	0.0792
	(0.0080)***	(0.0070)***	(0.0076)***	(0.0084)***
other	0.4149	0.4056	0.3257	0.2905
	(0.0219)***	(0.0443)***	(0.0238)***	(0.0235)***
inalas	0.3551	0.2454	0.1194	0.0860
	(0.0348)***	(0.0174)***	(0.0374)***	(0.0255)***
female	-0.1928	0.0168	-0.0077	-0.0357
	(0.0082)***	(0.0069)**	(0.0062)	(0.0116)***
married	0.1583	0.2155	0.0281	0.0043
	(0.0110)***	(0.0110)***	(0.0090)***	(0.0109)
age	-0.0200	0.0061	0.0076	-0.0098
	(0.0011)***	(0.0010)***	(0.0014)***	(0.0015)***
afqtperc	0.0029	0.0042	0.0052	0.0030
	(0.0002)***	(0.0002)***	(0.0002)***	(0.0002)***
depnum	0.0741	-0.1967	-0.0786	0.0066
	(0.0048)***	(0.0054)***	(0.0049)***	(0.0050)
tier2	-0.2603	-0.1449	-0.0489	-0.0981
	(0.0108)***	(0.0101)***	(0.0137)***	(0.0118)***
tier3	-0.4930	0.1379	-0.0944	-0.1979
	(0.0148)***	(0.0114)***	(0.0340)***	(0.0214)***
noncitizen	0.4223	0.1278	0.3337	0.2052
	(0.0231)***	(0.0123)***	(0.0185)***	(0.0134)***
enpygrade2	0.0362	0.1301	-0.1427	0.3784

	(0.0072)***	(0.0107)***	(0.0064)***	(0.0078)***
enpygrade3	0.1606	0.1653	0.1358	0.6630
	(0.0080)***	(0.0111)***	(0.0073)***	(0.0097)***
Constant	-0.8952	-2.6128	-1.0623	-1.8197
	(0.0269)***	(0.0253)***	(0.0289)***	(0.0333)***
Observations	200804	401005	258266	269891

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 18. Probit Partial effects for Promotion to E4 in the First Term Model

VARIABLE	**ARMY**	**NAVY**	**AIR FORCE**	**MARINE CORPS**
	e4	E4	e4	e4
mexican	0.1649	0.0860	0.1251	0.1470
	(0.0067)***	(0.0044)***	(0.0064)***	(0.0044)***
otherhispan	0.1744	0.0582	0.0464	0.0682
	(0.0074)***	(0.0033)***	(0.0071)***	(0.0051)***
puertorican	0.1714	0.0832	0.1168	0.1114
	(0.0088)***	(0.0076)***	(0.0105)***	(0.0099)***
cuban	0.0641	0.0221	0.1108	0.1085
	(0.0341)*	(0.0182)	(0.0375)***	(0.0285)***
latinam	0.1613	0.0990	0.0189	0.0941
	(0.0132)***	(0.0115)***	(0.0293)	(0.0124)***
asian	0.2456	0.1120	0.1620	0.1668
	(0.0074)***	(0.0045)***	(0.0071)***	(0.0079)***
Black	0.1786	0.0505	0.0545	0.0307
	(0.0030)***	(0.0021)***	(0.0030)***	(0.0033)***
Other	0.1617	0.1258	0.1282	0.1146
	(0.0081)***	(0.0156)***	(0.0095)***	(0.0094)***
Inalas	0.1392	0.0717	0.0463	0.0334
	(0.0131)***	(0.0055)***	(0.0147)***	(0.0100)***
WHITE (NON-HISPANIC)	**BASE**	**BASE**	**BASE**	**BASE**
Female	-0.0766	0.0045	-0.0029	-0.0137
	(0.0032)***	(0.0018)**	(0.0024)	(0.0044)***
MALE	**BASE**	**BASE**	**BASE**	**BASE**
Married	0.0629	0.0612	0.0108	0.0016
	(0.0044)***	(0.0033)***	(0.0035)***	(0.0042)
SINGLE	**BASE**	**BASE**	**BASE**	**BASE**
Age	-0.0080	0.0016	0.0029	-0.0038
	(0.0004)***	(0.0003)***	(0.0005)***	(0.0006)***
Afqtperc	0.0012	0.0011	0.0020	0.0012
	(0.0001)***	(0.0000)***	(0.0001)***	(0.0001)***
Depnum	0.0296	-0.0520	-0.0300	0.0026
	(0.0019)***	(0.0014)***	(0.0019)***	(0.0019)
tier2	-0.1027	-0.0362	-0.0188	-0.0373

	(0.0042)***	(0.0024)***	(0.0053)***	(0.0044)***
tier3	-0.1893	0.0385	-0.0355	-0.0738
	(0.0053)***	(0.0034)***	(0.0126)***	(0.0077)***
TIER 1	**BASE**	**BASE**	**BASE**	**BASE**
noncitizen	0.1644	0.0356	0.1313	0.0805
	(0.0085)***	(0.0036)***	(0.0074)***	(0.0053)***
US CITIZEN	**BASE**	**BASE**	**BASE**	**BASE**
enpygrade2	0.0144	0.0350	-0.0542	0.1458
	(0.0029)***	(0.0029)***	(0.0024)***	(0.0030)***
enpygrade3	0.0640	0.0450	0.0522	0.2580
	(0.0032)***	(0.0031)***	(0.0028)***	(0.0037)***
PAY GRADE E1	**BASE**	**BASE**	**BASE**	**BASE**
Observations	200804	401005	258266	269891

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

V. CONCLUSIONS

A. CONCLUSIONS

All data indicate that the demographic face of the United States is changing rapidly. Although the U.S. has experienced significant demographic changes in the past, the inherent diversity of Hispanics, and the magnitude of their population growth, provide challenging and unique opportunities. Immigration and integration models of the past, although helpful in providing insight on current problems, must be modified to properly understand the demographic changes of today. Most immigrants of the past were separated from their homeland by vast expanses of ocean which prevented almost all interaction with their country of origin. The Hispanic immigrants of today are hours away from their native land and modern affordable methods of communication allow traditional cultural experiences to endure thus allowing immigrants to retain their Hispanic identity. Hispanics encompass all racial categories such that their integration experiences are varied. Even within families, predominant characteristics associated with different racial categories vary such that, there are different integration patterns. Thus it is difficult to generalize behavior patterns to Hispanic sub-groups (based on country of origin).

Military manpower analysts are responsible for analyzing current trends and developing projections that can be used to recommend policies that will help in meeting the future manpower needs of the military. As the required knowledge, skills and abilities of military jobs grow increasingly in complexity, the available workforce must be ready to meet this challenge. Screening for military service is conducted based on age, aptitude, citizenship, education, moral character, and physical fitness. The recruit characteristics used to define recruit quality are aptitude and education. "Research shows a strong relation between AFQT scores and success in both training and on-the-job performance.[164] Unfortunately, the fastest growing element of this diverse workforce, Hispanics, also has the lowest educational achievement rates. The Hispanic community is plagued with an alarming high school drop out rate. In the United States, whereas 80

[164] W.S. Sellman, Predicting Readiness for Military Service, National Assessment Governing Board, September 30, 2004.

percent of the non-Hispanic whites and 75 percent of the black population has a high school diploma, only 62 percent of Hispanics graduate from high school.[165] The challenge of educators and trainers is to prepare this group to meet the requirements of twenty-first century employment. Programs and policies must be initiated today to prevent a crisis in the future.

1. Interviews

The interviews conducted for this thesis provided insight into these unique experiences. Education emerged as the predominant theme and the greatest barrier to socioeconomic and political progress. Specifically of concern were the differential high high-school dropout rates and the low level of college degree completion among Hispanics. The interviews also provided various challenges to long-held assumptions of Hispanic values. As the level of assimilation progresses these values are challenged and a new identity is emerging that incorporates traditional American values by modifying but not eliminating Hispanic values.

2. Statistical Analyses

The results of the statistical analysis suggest Hispanics have lower predicted rates of first term attrition and early attrition, and higher estimated rates of retention beyond the first term and promotion to E-4.

a. Early (Six-Month) Attrition

All Hispanic ethnic categories are associated with a lower probability of early attrition. Of particular note, except for Navy personnel, people with more dependents have lower attrition rates. This is probably because of their financial responsibilities. Contrary to our hypothesis, the noncitizen variable is associated with higher early attrition in the Air Force and Marines.

b. First Term Attrition

The attrition rates of Hispanics range from 5 percentage points lower to 24 percentage points lower compared to white non-Hispanic enlistees. Also, as with the early attrition model, more dependents are associated with lower attrition rates. However, married people have higher probabilities of attrition than single enlistees.

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[165] Department of Defense, Population Representation in the Military Services Fiscal Year 2006, http://www.dod.mil/prhome/poprep2006, accessed September 2006.

c. Retention Beyond the First Term

All significant Hispanic ethnic backgrounds are associated with higher estimated retention rates than for non-Hispanic whites. The significant predicted retention rates for Hispanics range from 1 percentage point higher to 16 percentage points higher. Once again, an increasing number of dependents improves the probability of reenlistment.

d. Promotion to E4 Model

All Hispanics have positive coefficients indicating they promote to E-4 rank at a higher rate than non-Hispanic whites. Promotion rates of Hispanics range from 4 percentage points higher to 17 percentage points higher. Being married increases the probability of reenlisting.

B. RECOMMENDATIONS

The sample size of the interviews was limited by time and funding. Although the sample was small, useful insights were provided into Hispanic-American issues. Assimilation patterns emerged that seemed to vary with socio-economic patterns. The challenges identified to traditionally held assumptions on Hispanic values are useful in measuring the scope of assimilation and identifying a Hispanic identity. It seems useful to identify these patterns as a means of allocating educational funding. Interviews of a larger sample size would provide possible correlation between varying opinions yielding a richer data set of contemporary values.

This study was motivated by a previous study on non-citizens in the U.S. military. That study suggested further research to focus on individual ethnic groups. In this study we included both Hispanic citizens and non-citizens. We suggest additional studies be conducted on other ethnic groups. Additional studies should also focus on Hispanic officers. Interesting results may be returned by evaluating the interactions of non-citizens with different Hispanic ethnicities. Another interesting study would be to evaluate the effects of parental citizenship origin i.e., whether the parents of an enlistee are foreign born or native born and the effects on each of the measures of success models.

Diversity is being embraced by many businesses throughout the United States, not only because of government mandates, but also because of the growth of the Hispanic

labor force. By the year 2030 the "number of Latinos in the labor force will triple."[166] Of course, diversity is more than just about Hispanics and minorities. The Navy defines diversity as "all of the different characteristics and attributes of individual sailors and civilians that enhance the mission readiness of the Navy." Embracing diversity includes managing diversity, not only in terms of maximizing its benefits but also in terms of minimizing its potential divisiveness. In our interviews with Navy personnel, we found no opinions reflecting this critical element. All interview opinions about diversity expressed a sense of diversity as all-around acceptance. The problem with this view is that unbridled diversity can lead to rule by consensus and a military unit cannot function in that manner. U.S. Military Academy Professor, Colonel Andre Sayles, advocates encouraging diversity by adapting a strategy of considering people to be the same – but different. The same in that they are part of a military culture and different with respect to their unique traits. He phrases this approach best by declaring, "This balance between the individual's need to align with the organizational culture and the organization's need to recognize individual differences leads to success managing diversity."[167] Increased emphasis on diversity management training with awareness of both the advantages and disadvantages to an institution needs to improve.

Meanwhile, in the near future an increasing number of baby boomers will be retiring. Hence, a larger percentage of the work force will be Hispanic. However, the Hispanic labor force has an educational level that is lower than the majority of the population.[168] The military will be competing with corporate America for educated Hispanics. Programs such as the "No Child Left Behind" and policies such as requiring exit exams for high school graduates are attempts at providing early educational support and promoting personal accountability for high school success. Additional programs focused on improving education in America are critical in developing a competent pool of candidates for the military. In addition, studies should be conducted to determine the benefits of the high school JROTC program.

166 R. Suro, A Growing Minority, http://www.facts.com/wfea70050.htm, accessed September 2006.

167 Andre H. Sayles, Person to Person: The Diversity Challenge for the Army After Next, in Lloyd J. Matthews and Tinaz Pavri, *Population Diversity and the U.S. Army*, U.S. Army War College, Carlislie, PA, 1999.

168 Policy Alert Supplement, Educational level of Colorado's Workforce Projected to Decline, National Center for Public Policy and Higher Education, San Jose, CA, 2005.

Advertising traditionally targets the demographic group which the advertiser seeks to influence. In an effort to meet recruiting goals, the military recruiting budget has increased from $299 million in 1998[169] to $571 million in 2004[170] with an increasing portion being targeted toward Hispanics. In fact, the Army has increased its Spanish language broadcasting campaign budget "by at least $55 million in four years."[171] Hispanics are very important to the military. Recently, John McLaurin, Deputy Assistant Secretary of the Army for Human Resources, stated "that in order to meet recruitment goals, Latino enlistments must grow to 22 percent by the year 2025, when 1 in four Americans will be Latino."[172] This process has created some resentment among activists in the Latino community resulting in counter recruitment campaigns. It is possible that this resentment might be reduced by focusing recruiting efforts through influencers, thereby acknowledging the importance of the family and friends in an individual's decision to enlist.

1. Optimism for the Future

Although the challenges represented in this analysis seem to be formidable, there are optimistic views to consider. There are those who fear the changing face of America and its impact on the future. In spite of those fears and the challenges above, "by the third generation most Hispanics consider English as their dominant language and identify more as Americans than with their country of origin."[173] The Hispanic of 2050 will be much different than the Hispanic of today. By 2050, 40 percent of the Hispanic population will be third generation and 40 percent will be second generation.[174] They will necessarily need to bear a greater responsibility for the functioning of society.

169 United States Government Accounting Office, *Military Recruiting: DoD Needs to Establish Objectives and Measures to Better Evaluate Advertising's Effectiveness*, GAO-03-1005, Washington, DC, 2003.

170 United States Government Accounting Office, *Military Personnel: DoD Needs Action Plan to Address Enlisted Personnel Recruitment and Retention Challenges*, GAO-06-134, Washington, DC, 2005.

171 L. Alvarez, *Army Effort to Enlist Hispanics Draws Recruits, and Criticism*, http://www.nytimes.com/2006/02/09/national/09recruit.html?ei=5102&en=b822eeeb793fe363&ex=11421, accessed September 2006.

172 R. Lovato, *The War for Latinos*, http://www.latinola.com/story.php?story=2841, accessed September 2006.

173 R.T. Alpert, Hispanic Immigration: Assimilation or Separation?, http://www.users.crocker.com/~amedpub/rc21d/hispanic_assimilation.htm, accessed September 2006.

174 R. Suro and J.S. Passel, The Rise of the Second Generation: Changing patterns in Hispanic Population Growth, Pew Hispanic Center, Washington, DC, 2003.

Similar fears arose during the Irish, German, Slavic and Italian migrations of the past, yet, as Nathan Glazer, a noted scholar on immigration wrote "the road to assimilation of America's new immigrants maybe different than in the past, but it will nevertheless lead to the same place."[175]

2. Conclusion

Change is sometimes difficult to accept because of the associated uncertainty. America is undergoing significant demographic changes due to Hispanic immigration. Previous immigrations to the United States have produced similar apprehensions. However, the nation has successfully assimilated these ethnic groups to produce the unique American identity. Hispanics will be no different. The resulting legislation from the recent debates over the status of illegal immigrants in the United States, border security and immigration policy will have a significant influence on the projections above and the perceptions of the Hispanic community. The challenges for military planners during the transition phases will require careful planning and unique approaches targeting diverse groups for military service. It is these people, presently in the minority, that will develop into the generals and the admirals of the military of 2050.

[175] R.T. Alpert, Hispanic Immigration: Assimilation or Separation?, http://www.users.crocker.com/~amedpub/rc21d/hispanic_assimilation.htm, accessed September 2006.

APPENDIX A. INTERVIEW PROTOCOL

Good Morning/ Good Afternoon. Thank you for agreeing to participate in this interview. As we discussed earlier, this interview is part of my thesis work at the Naval Postgraduate School. The topic of my thesis relates to diversity in the military specifically relating to Hispanics and their role in meeting the military's future manpower needs. You may be aware that the Hispanic population in the United States is increasing at a faster rate than any other group. The US Census Bureau reported that in 2004 Hispanics became the nation's largest minority group. Additionally, forecasted growth rates indicate that by 2050 no single ethnic group will comprise more than 50% of the population. In light of these demographic changes and the inherent cultural influences exerted by this rapidly growing population, government and business leaders throughout the United States are developing strategies to ensure their institutional success. From this interview I hope to gather some insight that may be useful in identifying themes related to the Hispanic experience.

In addition to a list of specific questions prepared to get us started, the interview is structured in an open manner so that we can discuss any area in which you may have strong experiences. I would like to hear about your perceptions or experiences with Hispanics or as a Hispanic regarding values, family, religion, education, work, language, the military and challenges.

Please be aware that none of your comments from this interview will be identified with you. I will shortly present you with a consent and privacy form detailing the responsibility of protecting your privacy. My purpose is to identify recurring themes from literature reviews, statistical analysis and interviews that may be helpful toward increasing awareness of the uniqueness of the growing Hispanic population. I would like to have your permission to record this interview. This will allow me to listen to you more intently while helping me to subsequently reconstruct your comments. The recording is for my personal use and will not be personally identifiable. At any time you may ask me to stop recording. Do you have any questions?

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APPENDIX B. SAMPLE INTERVIEW QUESTIONS

How would you define diversity?

What are the top three values of Hispanic youth?

Who are the people who have the most influence on Hispanic youth?

How do you explain the high dropout rate among Hispanic youth?

How do you get information about the military?

Is the military explored as an option for employment?

What are the most important issues effecting Hispanics?

Is the student population fixed or migratory?

How do you work with the JROTC unit?

How many students go to four year colleges? Two year?

Why do you think students join the military?

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APPENDIX C. PROBIT ESTIMATES FOR RETENTION BEYOND THE FIRST TERM

	ARMY	**NAVY**	**AIR FORCE**	**MARINE CORPS**
	reenlist	reenlist	reenlist	reenlist
mexican	0.2189	0.0192	0.4966	0.2215
	(0.0219)***	(0.0183)	(0.0467)***	(0.0132)***
otherhispan	0.1466	0.0362	-0.2436	0.1289
	(0.0218)***	(0.0149)**	(0.0366)***	(0.0151)***
puertorican	0.5532	0.2092	0.1374	0.4380
	(0.0327)***	(0.0339)***	(0.0561)**	(0.0283)***
cuban	-0.0963	-0.0389	-0.0162	0.1289
	(0.1031)	(0.0838)	(0.1257)	(0.0838)
latinam	0.1290	0.1363	1.4755	0.1269
	(0.0430)***	(0.0488)***	(0.4704)***	(0.0376)***
asian	0.1148	0.1737	0.1371	0.1266
	(0.0229)***	(0.0188)***	(0.0370)***	(0.0229)***
black	0.3063	0.2861	0.2597	0.3269
	(0.0089)***	(0.0097)***	(0.0119)***	(0.0094)***
other	0.3032	-0.0108	0.1528	0.1688
	(0.0212)***	(0.0531)	(0.0503)***	(0.0269)***
inalas	0.1088	0.0637	-0.0554	0.0610
	(0.0380)***	(0.0253)**	(0.0502)	(0.0317)*
female	0.0872	-0.1364	0.1058	0.0371
	(0.0105)***	(0.0096)***	(0.0114)***	(0.0144)***
marriedend	0.1241	0.1351	0.2284	0.1078
	(0.0120)***	(0.0121)***	(0.0110)***	(0.0122)***
age	0.0258	0.0264	0.0061	0.0249
	(0.0012)***	(0.0011)***	(0.0013)***	(0.0014)***
afqtperc	-0.0146	-0.0127	-0.0117	-0.0131
	(0.0002)***	(0.0002)***	(0.0002)***	(0.0002)***
depnumend	0.1524	0.0098	-0.0148	0.0404
	(0.0057)***	(0.0050)**	(0.0044)***	(0.0052)***
tier2	0.0312	0.4338	1.1190	0.1909
	(0.0116)***	(0.0116)***	(0.0157)***	(0.0138)***
tier3	0.3997	0.5335	0.2735	0.8387
	(0.0242)***	(0.0184)***	(0.0455)***	(0.0267)***
noncitizen	0.0323	0.1312	-0.3759	0.1286
	(0.0268)	(0.0193)***	(0.0763)***	(0.0168)***
payend2	0.0747	0.3500	1.6798	0.2635
	(0.0458)	(0.0460)***	(0.1013)***	(0.0464)***
payend3	0.3827	0.8813	1.5860	0.5299
	(0.0399)***	(0.0410)***	(0.0897)***	(0.0405)***
payend4	0.0245	1.2020	0.5312	0.8023
	(0.0381)	(0.0407)***	(0.0893)***	(0.0402)***
payend_5	0.4038	1.3357	1.1688	1.2156
	(0.0391)***	(0.0413)***	(0.0900)***	(0.0413)***
unemp	0.0592	0.0714	0.1267	0.0164
	(0.0029)***	(0.0029)***	(0.0033)***	(0.0028)***
cohort92	-0.0040	-0.6044	-0.4430	0.0221

	(0.0138)	(0.0129)***	(0.0143)***	(0.0141)
cohort94	0.0121	0.0049	0.0098	-0.0243
	(0.0224)***	(0.0227)***	(0.0050)**	(0.0144)*
cohort95	0.0504	0.6541	0.0323	-0.0607
	(0.0408)***	(0.0248)***	(0.0444)***	(0.0151)***
cohort96	0.06413	0.0598	-0.0343	0.0183
	(0.0261)***	(0.0228)***	(0.0460)***	(0.0146)
cohort97	0.0289	0.0640	0.0488	0.0185
	(0.0144)***	(0.0158)***	(0.0162)***	(0.0142)
cohort98	0.0542	0.0966	0.0642	0.0512
	(0.0147)***	(0.0165)***	(0.0120)***	(0.0144)***
cohort99	0.0767	0.0543	0.0268	0.0063
	(0.0138)***	(0.0139)***	(0.0189)***	(0.0195)
cohort00	0.0162	-0.0421	0.0468	0.1488
	(0.0138)	(0.0136)***	(0.0115)***	(0.0166)***
_Imos_2	0.9321	0.0874	1.3848	1.5091
	(0.0951)***	(0.0186)***	(0.0116)***	(0.0275)***
_Imos_3	-0.6350	-0.0623	1.1063	1.0235
	(0.1831)***	(0.0324)*	(0.0118)***	(0.0366)***
_Imos_4	1.1651		0.7089	1.6562
	(0.0622)***		(0.0117)***	(0.0237)***
_Imos_5	-0.0779		0.7633	1.7999
	(0.1699)		(0.0186)***	(0.0567)***
_Imos_6	1.3588	0.9312	0.7925	2.3993
	(0.0178)***	(0.0353)***	(0.0151)***	(0.0546)***
_Imos_7	0.9068	0.9242	0.8281	0.6273
	(0.0266)***	(0.0375)***	(0.0178)***	(0.0697)***
_Imos_8	1.2941	0.9323	0.7078	2.5131
	(0.0204)***	(0.0296)***	(0.0166)***	(0.1272)***
_Imos_9	1.3985	1.4833	0.9825	1.8433
	(0.0326)***	(0.0556)***	(0.0159)***	(0.0492)***
_Imos_10	1.7960	1.1202		2.3936
	(0.0782)***	(0.0543)***		(0.1236)***
_Imos_11	0.4479	0.1033		1.6572
	(0.0495)***	(0.0366)***		(0.1575)***
_Imos_13	2.8182	0.2805	0.7002	
	(0.1051)***	(0.0470)***	(0.1070)***	
_Imos_14	1.4216	1.3289	0.8130	0.3900
	(0.0215)***	(0.0295)***	(0.2903)***	(0.0283)***
_Imos_15	1.8373		0.4197	1.2197
	(0.0421)***		(0.1300)***	(0.0183)***
_Imos_16	0.5072			1.3527
	(0.1965)***			(0.0533)***
_Imos_17	0.6879	1.0285		1.1974
	(0.0661)***	(0.0573)***		(0.0252)***
_Imos_18	1.7381	1.1265		1.2028
	(0.0252)***	(0.0807)***		(0.0252)***
_Imos_19	0.9488	0.5185	0.3601	1.2147
	(0.0360)***	(0.0417)***	(0.2328)	(0.0239)***
_Imos_20	0.6913	1.0251	1.6344	2.5245
	(0.0480)***	(0.0636)***	(0.3082)***	(0.0422)***
_Imos_21	0.9543	0.1294	1.0411	0.4307
	(0.0185)***	(0.0467)***	(0.0896)***	(0.0778)***

_Imos_22	1.6096	1.4494	0.6248	1.7357
	(0.0561)***	(0.0362)***	(0.5996)	(0.0398)***
_Imos_23	1.2155	1.3703		1.7024
	(0.0354)***	(0.0448)***		(0.0376)***
_Imos_24	0.6223	0.4500		1.5666
	(0.0904)***	(0.0450)***		(0.0894)***
_Imos_25	1.4654	0.4355		1.3558
	(0.0723)***	(0.0348)***		(0.0422)***
_Imos_26	0.2879	0.0171	0.5125	1.9849
	(0.9014)	(0.0191)	(0.4956)	(0.1165)***
_Imos_27	0.7775	0.2375	0.4306	
	(0.0819)***	(0.0278)***	(0.3743)	
_Imos_28	0.3490	0.3812	0.9780	1.9446
	(0.2774)	(0.0294)***	(0.3742)***	(0.1218)***
_Imos_29	1.7610	1.2613	0.9514	0.8898
	(0.0361)***	(0.0292)***	(0.3859)**	(0.1167)***
_Imos_30	0.7648	-0.0500	-0.0028	1.3292
	(0.1085)***	(0.0161)***	(0.6439)	(0.0465)***
_Imos_31	1.3360	-0.2288		1.3963
	(0.0525)***	(0.0529)***		(0.0271)***
_Imos_32	1.1876	0.3384	0.1364	1.2365
	(0.0367)***	(0.0567)***	(0.3042)	(0.0554)***
_Imos_33	1.6338	1.2613	1.7892	
	(0.0938)***	(0.0463)***	(0.1421)***	
_Imos_34	0.8515	-0.0909	6.6317	
	(0.0460)***	(0.0304)***	(0.3655)***	
_Imos_35	1.3093	1.3390		0.0350
	(0.0312)***	(0.0211)***		(0.0829)
_Imos_36	1.2044			1.4463
	(0.0342)***			(0.0280)***
_Imos_37	1.0940			1.7380
	(0.0447)***			(0.0392)***
_Imos_38	0.9754	0.2732		1.6191
	(0.0714)***	(0.2279)		(0.0554)***
_Imos_39	0.6808	1.8027		0.1910
	(0.0923)***	(0.0454)***		(0.0657)***
_Imos_40	0.8222	1.0431	0.8067	1.4843
	(0.0317)***	(0.0381)***	(0.5665)	(0.0347)***
_Imos_41	1.4032	1.0999		1.6167
	(0.0192)***	(0.0533)***		(0.0518)***
_Imos_42	1.3011	0.8213	1.3617	1.4211
	(0.0606)***	(0.0277)***	(0.0553)***	(0.0401)***
_Imos_43	1.3913	0.9791	1.1092	1.3508
	(0.0890)***	(0.0353)***	(0.5600)**	(0.1235)***
_Imos_44	1.1160	0.3997		0.1258
	(0.0234)***	(0.0687)***		(0.0470)***
_Imos_46	1.2711	1.3994		1.5342
	(0.0451)***	(0.0519)***		(0.0266)***
_Imos_47	1.2742	0.4967		1.5054
	(0.0318)***	(0.0586)***		(0.1007)***
_Imos_48	1.1598	0.7717	0.1880	1.4730
	(0.0260)***	(0.2189)***	(0.1201)	(0.0263)***
_Imos_49	0.2851	-0.3114	1.0872	1.6129

	(0.0245)***	(0.2926)	(0.7425)	(0.0347)***
_Imos_50	0.9015	1.1330	-0.2200	
	(0.0311)***	(0.0723)***	(1.3444)	
_Imos_51	2.9132	0.7738		-1.0698
	(0.2475)***	(0.0767)***		(1.0273)
_Imos_52	0.6968	1.4772		0.9267
	(0.0805)***	(0.0759)***		(0.1880)***
_Imos_53	0.9090	0.6657		0.2903
	(0.0745)***	(0.0818)***		(0.0800)***
_Imos_54	0.8097			1.4800
	(0.1661)***			(0.0461)***
_Imos_55	1.4362	0.6298		1.4974
	(0.0217)***	(0.3397)*		(0.0309)***
_Imos_56	1.4934	0.0109		0.0795
	(0.0890)***	(0.3031)		(0.0604)
_Imos_57	1.4761			1.6841
	(0.0187)***			(0.0344)***
_Imos_58	1.5154	0.6560	0.2772	1.5568
	(0.0191)***	(0.1728)***	(0.2712)	(0.0765)***
_Imos_59	1.0635		-0.0517	1.5832
	(0.0440)***		(0.1637)	(0.0334)***
_Imos_60	0.9703	1.7609	-5.5339	1.6577
	(0.0372)***	(0.0660)***	(0.0000)	(0.0913)***
_Imos_61	1.3033	2.1020	0.4298	1.5462
	(0.0293)***	(0.1038)***	(0.7829)	(0.0696)***
_Imos_62	1.6193			1.7254
	(0.0264)***			(0.4465)***
_Imos_63	1.2760	1.7574		0.7377
	(0.0492)***	(0.0619)***		(0.0890)***
_Imos_64	1.4309	1.5697		1.5815
	(0.0253)***	(0.0470)***		(0.0361)***
_Imos_65	0.6291	1.5813		2.2886
	(0.0761)***	(0.0429)***		(0.0997)***
_Imos_12		1.3785	0.3311	1.3959
		(0.0271)***	(0.0629)***	(0.1015)***
_Imos_45		0.2259		1.4462
		(0.0518)***		(0.0662)***
_Imos_67		1.3585	1.4350	1.0682
		(0.0383)***	(0.1158)***	(0.0359)***
_Imos_68		1.4908	1.1808	1.0258
		(0.0335)***	(1.3357)	(0.0237)***
_Imos_69		1.6144		1.1336
		(0.0446)***		(0.0416)***
_Imos_72		0.6043	1.0329	1.8382
		(0.1114)***	(0.2916)***	(0.0605)***
_Imos_73		-0.5030	0.7788	1.4371
		(0.0858)***	(0.2470)***	(0.1121)***
_Imos_74		0.4710		1.9853
		(0.0339)***		(0.0770)***
_Imos_75		0.8333		1.8254
		(0.0459)***		(0.0839)***
_Imos_76		0.6743		1.3023
		(0.0527)***		(0.3005)***

_Imos_77		1.0959	1.2265	0.3702
		(0.0676)***	(0.0876)***	(0.0633)***
_Imos_78		1.1697	1.1684	1.0704
		(0.2278)***	(0.0468)***	(0.0747)***
_Imos_79		0.7933	1.0572	1.9511
		(0.2841)***	(0.0563)***	(0.0982)***
_Imos_80		0.8216	0.6953	1.6475
		(0.0686)***	(0.0509)***	(0.1063)***
_Imos_81		0.1353	0.6582	1.2876
		(0.0723)*	(0.1342)***	(0.0609)***
_Imos_82		0.3280	0.8758	2.1717
		(0.1024)***	(0.1232)***	(0.0798)***
_Imos_83		0.6898	0.6298	1.7238
		(0.0772)***	(0.1496)***	(0.1436)***
_Imos_84		0.8864	0.6677	1.5126
		(0.2408)***	(0.1153)***	(0.1024)***
_Imos_85		-0.4325	1.2185	1.9660
		(0.1858)**	(0.1179)***	(0.2940)***
_Imos_86		-1.1300		0.2945
		(0.1274)***		(0.0557)***
_Imos_87		0.4751		1.8507
		(0.0584)***		(0.0237)***
_Imos_88		0.6289		1.5545
		(0.0699)***		(0.0254)***
_Imos_89		1.4336		1.1151
		(0.0616)***		(0.6187)*
_Imos_90		1.3687	0.6124	0.1871
		(0.1518)***	(0.3507)*	(0.4559)
_Imos_91		0.4615		-0.0306
		(0.1607)***		(0.1910)
_Imos_92		0.2266	1.6249	1.6775
		(0.0249)***	(0.3523)***	(0.0485)***
_Imos_93		1.3071	0.9917	0.0209
		(0.0223)***	(0.2783)***	(0.0747)
_Imos_94		0.3601		
		(0.0332)***		
_Imos_95		1.3137		0.8942
		(0.0328)***		(0.0653)***
_Imos_96		1.2417	0.5470	1.5827
		(0.0768)***	(0.4372)	(0.0260)***
_Imos_97		0.6932		0.3000
		(0.0800)***		(0.1048)***
_Imos_100		0.2316	0.0322	2.1932
		(0.0295)***	(0.8071)	(0.3209)***
_Imos_101		1.4450	0.3448	1.8692
		(0.0191)***	(0.6308)	(0.0587)***
_Imos_102		-0.2481	-0.1687	0.1543
		(0.0662)***	(0.4918)	(0.0352)***
_Imos_103		0.8819	1.3099	0.8966
		(0.0530)***	(0.0642)***	(0.2032)***
_Imos_104		0.0472	1.1777	1.5745
		(0.0234)**	(0.1420)***	(0.0239)***
_Imos_105		-0.2685	0.7208	1.4365

		(0.0412)***	(0.2896)**	(0.0206)***
_Imos_106		0.5910	1.7421	0.2889
		(0.0491)***	(0.2589)***	(0.0755)***
_Imos_107		1.6494	1.8412	1.0622
		(0.0316)***	(0.3369)***	(0.0803)***
_Imos_109		0.1859		
		(0.0231)***		
_Imos_110		0.3851		1.4050
		(0.0281)***		(0.2712)***
_Imos_112		0.0412		0.4281
		(0.0217)*		(0.1388)***
_Imos_113		-0.2923		0.5416
		(0.0619)***		(0.4063)
_Imos_114		0.4179		0.2689
		(0.1944)**		(0.1616)*
_Imos_115		2.0146		1.9745
		(0.1075)***		(0.0888)***
_Imos_116		-0.0717		
		(0.1314)		
_Imos_117		-0.3079		0.2276
		(0.1276)**		(0.1595)
_Imos_118		0.3515		1.8278
		(0.0398)***		(0.0543)***
_Imos_119		1.0391		0.0334
		(0.0434)***		(0.1151)
_Imos_120		0.9456		1.5533
		(0.0562)***		(0.0955)***
_Imos_121		1.0173		1.0622
		(0.0888)***		(0.2236)***
_Imos_123		1.8277		1.3350
		(0.3086)***		(0.1544)***
_Imos_124		1.1612		1.6365
		(0.0456)***		(0.1098)***
_Imos_125		1.2572		
		(0.0337)***		
_Imos_126		0.3827		0.2090
		(0.0530)***		(0.1124)*
_Imos_127		-0.0125		2.6256
		(0.0412)		(0.5200)***
_Imos_128		0.9061		1.6042
		(0.0395)***		(0.0937)***
_Imos_129		1.5429		1.2568
		(0.0233)***		(0.0885)***
_Imos_130		0.6014		1.0966
		(0.0347)***		(0.0740)***
_Imos_131		0.4965		1.0887
		(0.0317)***		(0.1229)***
_Imos_132		1.1123		-0.0455
		(0.1512)***		(0.1143)
_Imos_133		-0.2828		1.8881
		(0.0856)***		(0.0479)***
_Imos_134		0.5648		0.2345
		(0.0429)***		(0.0524)***

_Imos_135		1.2783		1.6044
		(0.0376)***		(0.0264)***
_Imos_136		0.1750		1.8270
		(0.0417)***		(0.1186)***
_Imos_137		1.0467		1.6309
		(0.0337)***		(0.0453)***
_Imos_138		0.4236		0.5112
		(0.2207)*		(0.1111)***
_Imos_139		0.3050		0.3093
		(0.1845)*		(0.2476)
_Imos_140		0.4979		1.0821
		(0.0502)***		(0.1551)***
_Imos_141		1.0767		1.8641
		(0.0475)***		(0.1393)***
_Imos_142		0.3949		1.4685
		(0.0327)***		(0.1443)***
_Imos_143		1.6324		1.8460
		(0.0373)***		(0.0910)***
_Imos_144		1.3869		0.9063
		(0.0996)***		(0.2075)***
_Imos_145		1.4603		1.9497
		(0.1086)***		(0.1879)***
_Imos_146		1.0073		
		(0.1140)***		
_Imos_147		0.7488		0.1438
		(0.1668)***		(0.0501)***
_Imos_148		2.0732		1.3116
		(0.1884)***		(0.0516)***
_Imos_149		0.7261		1.0495
		(0.2370)***		(0.0945)***
_Imos_150		1.7173		0.9548
		(0.0611)***		(0.1483)***
_Imos_151		1.7139		1.7877
		(0.0992)***		(0.0345)***
_Imos_152		0.3750		0.9862
		(0.4858)		(0.0607)***
_Imos_153		0.0679		1.4279
		(0.4845)		(0.0654)***
_Imos_154		0.1422		1.7460
		(0.0210)***		(0.0392)***
_Imos_155		1.4319		1.2756
		(0.0178)***		(0.1093)***
_Imos_156		0.5890		1.3296
		(0.1249)***		(0.0597)***
_Imos_157		1.4289		1.5585
		(0.1043)***		(0.0406)***
_Imos_158		0.6793		1.5798
		(0.0699)***		(0.0744)***
_Imos_159		0.6649		1.6595
		(0.0775)***		(0.1130)***
_Imos_160		0.0539		0.3492
		(0.0344)		(0.0980)***
_Imos_161		0.9321		1.6723

		(0.0348)***		(0.0507)***
_Imos_162		0.6734		1.5465
		(0.1569)***		(0.0558)***
_Imos_163		1.6295		
		(0.0646)***		
_Imos_164		0.1347		1.8482
		(0.2315)		(0.1003)***
_Imos_165		1.8816		1.6274
		(0.0894)***		(0.1764)***
_Imos_166		2.2721		-6.5425
		(0.4156)***		(0.7373)***
_Imos_167		1.6687		
		(0.1325)***		
_Imos_168		0.0273		2.1475
		(0.2433)		(0.1372)***
_Imos_169		0.4326		7.4067
		(0.2062)**		(0.0000)
_Imos_170		0.3917		2.0846
		(0.0263)***		(0.2531)***
_Imos_171		1.1914		0.2990
		(0.0266)***		(0.0756)***
_Imos_174		0.8225		1.6583
		(0.0880)***		(0.0763)***
_Imos_175		0.4308		
		(0.1903)**		
_Imos_176		0.8275		1.1301
		(0.0609)***		(0.3986)***
_Imos_177		0.8326		
		(0.1024)***		
_Imos_178		1.0930		1.6552
		(0.0738)***		(0.3058)***
_Imos_179		0.9419		2.0304
		(0.0706)***		(0.2239)***
_Imos_180		6.1646		1.3429
		(0.2180)***		(0.0683)***
_Imos_181		-5.8611		0.8151
		(0.0000)		(0.2011)***
_Imos_182		1.0240		1.6723
		(0.0372)***		(0.0851)***
_Imos_183		0.5631		1.6167
		(0.0503)***		(0.0772)***
_Imos_184		1.1314		1.0525
		(0.0590)***		(0.7701)
_Imos_185		0.7420		1.5000
		(0.0734)***		(0.0953)***
_Imos_186		0.7548		1.5721
		(0.0408)***		(0.0750)***
_Imos_187		0.4952		-0.1531
		(0.0526)***		(0.1170)
_Imos_188		0.1065		0.1736
		(0.0350)***		(0.0690)**
_Imos_189		0.6642		0.7850
		(0.0329)***		(0.0758)***

_Imos_190		0.7142		1.7748
		(0.0755)***		(0.0358)***
_Imos_191		0.9127		1.7995
		(0.0827)***		(0.0439)***
_Imos_192		0.1760		1.9065
		(0.0146)***		(0.3934)***
_Imos_193		-0.0939		0.0100
		(0.0285)***		(0.0818)
_Imos_194		0.2400		1.8044
		(0.0454)***		(0.0319)***
_Imos_195		1.2534		1.5381
		(0.0437)***		(0.1862)***
_Imos_196		0.9165		0.5535
		(0.0289)***		(0.2134)***
_Imos_197		1.3427		1.2801
		(0.0385)***		(0.1093)***
_Imos_198		0.5762		2.4734
		(0.0517)***		(0.1804)***
_Imos_199		0.7457		0.1030
		(0.0764)***		(0.0656)
_Imos_200		0.2685		1.7316
		(0.0151)***		(0.0603)***
_Imos_201		0.2358		1.8703
		(0.0213)***		(0.0417)***
_Imos_202		0.1075		1.6571
		(0.0140)***		(0.0405)***
_Imos_203		-0.3026		0.3050
		(0.0447)***		(0.0759)***
_Imos_204		1.2987		1.5800
		(0.0294)***		(0.0492)***
_Imos_205		1.6991		1.2563
		(0.0401)***		(0.1003)***
_Imos_206		1.3552		1.7861
		(0.0962)***		(0.0863)***
_Imos_207		0.4502		1.6702
		(0.1037)***		(0.0837)***
_Imos_208		0.4268		1.7145
		(0.0583)***		(0.0684)***
_Imos_209		0.8843		1.1540
		(0.0559)***		(0.2569)***
_Imos_212		1.1969		-0.2356
		(0.0900)***		(0.1483)
_Imos_213		0.7398		1.4513
		(0.0931)***		(0.1942)***
_Imos_215		0.2894		1.2712
		(0.1561)*		(0.3123)***
_Imos_216		1.3064		
		(0.0290)***		
_Imos_217		0.3208		2.1401
		(0.0376)***		(0.1131)***
_Imos_66			-0.2495	0.0265
			(1.0078)	(0.0528)
_Imos_99			-0.2540	1.8124

			(0.5281)	(0.0417)***
_Imos_70				2.0239
				(0.1715)***
_Imos_71				0.4499
				(0.0727)***
_Imos_98				0.1799
				(0.7362)
_Imos_108				1.2280
				(0.0382)***
_Imos_111				1.8410
				(0.1259)***
_Imos_122				1.5672
				(0.0837)***
_Imos_172				1.2782
				(0.0587)***
_Imos_173				1.6411
				(0.0585)***
_Imos_210				0.7049
				(0.1642)***
_Imos_211				0.4440
				(0.1280)***
_Imos_214				1.8545
				(0.1360)***
_Imos_219				1.9122
				(0.5535)***
_Imos_220				0.6818
				(0.7862)
_Imos_222				2.1965
				(0.0950)***
_Imos_223				0.2298
				(0.0184)***
_Imos_224				0.6206
				(0.1590)***
_Imos_226				0.2525
				(0.0099)***
_Imos_227				2.0861
				(0.1113)***
Constant	-1.7855	-0.4146	-3.0149	-3.5698
	(0.0523)***	(0.0516)***	(0.0980)***	(0.0554)***

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

APPENDIX D. PROBIT ESTIMATES FOR PROMOTION TO E4 MODEL

	ARMY	**NAVY**	**AIR FORCE**	**MARINE CORPS**
	e4	e4	e4	e4
mexican	0.4233	0.2903	0.3183	0.3726
	(0.0181)***	(0.0135)***	(0.0160)***	(0.0110)***
otherhispan	0.4494	0.2033	0.1198	0.1742
	(0.0202)***	(0.0108)***	(0.0182)***	(0.0129)***
puertorican	0.4415	0.2808	0.2971	0.2825
	(0.0241)***	(0.0232)***	(0.0262)***	(0.0248)***
cuban	0.1611	0.0807	0.2819	0.2750
	(0.0864)*	(0.0640)	(0.0941)***	(0.0713)***
latinam	0.4143	0.3279	0.0491	0.2391
	(0.0357)***	(0.0341)***	(0.0758)	(0.0311)***
asian	0.6538	0.3687	0.4108	0.4220
	(0.0224)***	(0.0132)***	(0.0180)***	(0.0201)***
black	0.4546	0.1811	0.1407	0.0792
	(0.0080)***	(0.0070)***	(0.0076)***	(0.0084)***
other	0.4149	0.4056	0.3257	0.2905
	(0.0219)***	(0.0443)***	(0.0238)***	(0.0235)***
inalas	0.3551	0.2454	0.1194	0.0860
	(0.0348)***	(0.0174)***	(0.0374)***	(0.0255)***
female	-0.1928	0.0168	-0.0077	-0.0357
	(0.0082)***	(0.0069)**	(0.0062)	(0.0116)***
married	-0.1583	0.2155	0.0281	-0.0043
	(0.0110)***	(0.0110)***	(0.0090)***	(0.0109)
age	-0.0200	0.0061	0.0076	-0.0098
	(0.0011)***	(0.0010)***	(0.0014)***	(0.0015)***
afqtperc	0.0029	0.0042	0.0052	0.0030
	(0.0002)***	(0.0002)***	(0.0002)***	(0.0002)***
depnum	0.0741	-0.1967	-0.0786	0.0066
	(0.0048)***	(0.0054)***	(0.0049)***	(0.0050)
tier2	-0.2603	-0.1449	0.0489	-0.0981
	(0.0108)***	(0.0101)***	(0.0137)***	(0.0118)***
tier3	-0.4930	0.1379	-0.0944	-0.1979
	(0.0148)***	(0.0114)***	(0.0340)***	(0.0214)***
noncitizen	0.4223	0.1278	0.3337	0.2052
	(0.0231)***	(0.0123)***	(0.0185)***	(0.0134)***
enpygrade2	0.0362	0.1301	-0.1427	0.3784
	(0.0072)***	(0.0107)***	(0.0064)***	(0.0078)***
enpygrade3	0.1606	0.1653	0.1358	0.6630
	(0.0080)***	(0.0111)***	(0.0073)***	(0.0097)***
_Imos_2	0.7489	0.0667	0.3079	0.7967
	(0.1007)***	(0.0120)***	(0.0066)***	(0.0208)***
_Imos_3	1.2079	0.2167	0.3001	0.8862
	(0.3090)***	(0.0229)***	(0.0071)***	(0.0299)***
_Imos_4	1.4680		0.1185	1.0332
	(0.0720)***		(0.0074)***	(0.0178)***

_Imos_5	-0.4584		0.1350	1.0696
	(0.1085)***		(0.0152)***	(0.0468)***
_Imos_6	0.9117	1.5701	-0.0595	1.0851
	(0.0133)***	(0.0250)***	(0.0116)***	(0.0558)***
_Imos_7	1.0584	1.4128	-0.1246	0.2076
	(0.0232)***	(0.0267)***	(0.0174)***	(0.0632)***
_Imos_8	0.7908	1.3608	0.1717	0.9293
	(0.0163)***	(0.0213)***	(0.0130)***	(0.1064)***
_Imos_9	0.9147	0.9698	0.1154	1.7243
	(0.0249)***	(0.0334)***	(0.0088)***	(0.0516)***
_Imos_10	0.0410	1.1158		0.7459
	(0.0386)	(0.0430)***		(0.1062)***
_Imos_11	0.5101	0.5566		0.1451
	(0.0558)***	(0.0265)***		(0.2208)
_Imos_13	0.8302	0.4299	0.5670	
	(0.0541)***	(0.0306)***	(0.1513)***	
_Imos_14	0.9450	1.2001	0.3055	0.1088
	(0.0173)***	(0.0227)***	(0.3612)	(0.0176)***
_Imos_15	0.0777		-0.0544	1.0072
	(0.0249)***		(0.2128)	(0.0119)***
_Imos_16	0.4329			1.0319
	(0.1844)**			(0.0480)***
_Imos_17	0.8721	1.4559		1.0137
	(0.0699)***	(0.0386)***		(0.0172)***
_Imos_18	0.1596	0.6027		1.1215
	(0.0154)***	(0.0642)***		(0.0170)***
_Imos_19	0.6015	1.0886	0.5249	1.0387
	(0.0305)***	(0.0303)***	(0.4823)	(0.0162)***
_Imos_20	0.7574	0.1961	0.0052	1.0009
	(0.0543)***	(0.0542)***	(0.2594)	(0.0434)***
_Imos_21	1.1059	0.5267	0.2101	-0.0953
	(0.0136)***	(0.0318)***	(0.0339)***	(0.0564)*
_Imos_22	1.1161	1.2789		1.1366
	(0.0471)***	(0.0241)***		(0.0326)***
_Imos_23	0.7076	1.3247		1.4276
	(0.0286)***	(0.0313)***		(0.0310)***
_Imos_24	0.4615	1.0361		0.7001
	(0.1202)***	(0.0328)***		(0.0766)***
_Imos_25	0.8292	0.8339		1.2261
	(0.0570)***	(0.0252)***		(0.0318)***
_Imos_27	1.1110	-0.2907		-1.4059
	(0.1101)***	(0.0169)***		(0.6813)**
_Imos_28	0.0164	0.9582		1.6036
	(0.3183)	(0.0203)***		(0.1029)***
_Imos_29	0.2254	0.9792	0.1806	-0.2279
	(0.0202)***	(0.0227)***	(0.8943)	(0.0586)***
_Imos_30	0.6662	0.3036		0.4952
	(0.0942)***	(0.0135)***		(0.0340)***
_Imos_31	0.4196	0.2677		0.7368
	(0.0348)***	(0.0406)***		(0.0198)***
_Imos_32	1.0136	0.7235		-0.1131
	(0.0319)***	(0.0406)***		(0.0433)***
_Imos_33	0.9646	1.2454	0.6474	0.2538

	(0.0954)***	(0.0357)***	(0.0544)***	(0.1189)**
_Imos_34	1.1314	0.5300	0.1486	
	(0.0365)***	(0.0214)***	(0.2029)	
_Imos_35	0.8725	1.4167	-0.0214	-0.0984
	(0.0271)***	(0.0154)***	(0.1997)	(0.0523)*
_Imos_36	0.8490		0.6297	1.0448
	(0.0288)***		(0.2590)**	(0.0206)***
_Imos_37	0.9730			1.2207
	(0.0347)***			(0.0315)***
_Imos_38	0.2558	-0.0339		1.3694
	(0.0532)***	(0.1169)		(0.0459)***
_Imos_39	0.6402	1.4518	-0.4918	0.0710
	(0.0862)***	(0.0313)***	(0.8106)	(0.0454)
_Imos_40	1.1060	1.4242		1.2524
	(0.0259)***	(0.0260)***		(0.0271)***
_Imos_41	0.9563	0.5311		1.3850
	(0.0158)***	(0.0446)***		(0.0441)***
_Imos_42	0.9975	1.3858	-0.0206	1.2171
	(0.0458)***	(0.0199)***	(0.0494)	(0.0306)***
_Imos_43	0.9620	0.5654	-0.5567	1.2200
	(0.0786)***	(0.0349)***	(0.4795)	(0.0912)***
_Imos_44	0.9826	0.4855	-0.2716	0.1057
	(0.0184)***	(0.0585)***	(0.5707)	(0.0320)***
_Imos_46	0.8301	1.1887		1.1288
	(0.0363)***	(0.0318)***		(0.0195)***
_Imos_47	0.8100	0.9647		1.2384
	(0.0254)***	(0.0484)***		(0.0824)***
_Imos_48	0.9997	0.1613		1.2392
	(0.0198)***	(0.0808)**		(0.0191)***
_Imos_49	0.4456	0.6946		1.2158
	(0.0280)***	(0.2219)***		(0.0273)***
_Imos_50	0.7311	0.8857		
	(0.0249)***	(0.0516)***		
_Imos_51	0.8623	0.9460		-1.0412
	(0.0741)***	(0.0728)***		(0.8533)
_Imos_52	1.3208	1.1441	-0.1997	0.0281
	(0.0669)***	(0.0417)***	(0.5145)	(0.1997)
_Imos_53	0.7065	1.1193	-0.0590	0.1988
	(0.0769)***	(0.0634)***	(0.2481)	(0.0538)***
_Imos_54	0.4056		-0.0500	0.9897
	(0.1918)**		(0.0995)	(0.0368)***
_Imos_55	0.8346	-0.0883	0.0854	1.2880
	(0.0161)***	(0.1466)	(0.5030)	(0.0229)***
_Imos_56	0.1118	0.1732		-0.1183
	(0.0492)**	(0.1666)		(0.0432)***
_Imos_57	0.7992			1.2452
	(0.0137)***			(0.0277)***
_Imos_58	0.7420	0.1983	-1.0253	1.1208
	(0.0140)***	(0.0570)***	(0.6493)	(0.0617)***
_Imos_59	1.0090	0.6164	-0.4533	1.5006
	(0.0373)***	(0.7219)	(0.1779)**	(0.0272)***
_Imos_60	0.0829	0.2984		1.1271
	(0.0316)***	(0.0299)***		(0.0788)***

_Imos_61	0.6938	0.8517	0.4328	1.5291
	(0.0385)***	(0.0384)***	(0.9101)	(0.0663)***
_Imos_62	0.8078			
	(0.0196)***			
_Imos_63	0.8462	1.6194		0.2491
	(0.0629)***	(0.0423)***		(0.0686)***
_Imos_64	1.0042	1.4558		1.2245
	(0.0238)***	(0.0331)***		(0.0280)***
_Imos_65	0.4873	1.6318		1.3488
	(0.0608)***	(0.0367)***		(0.1484)***
_Imos_12		1.1768	-0.3569	1.3357
		(0.0210)***	(0.0584)***	(0.1053)***
_Imos_26		0.4114		0.6847
		(0.0128)***		(0.1608)***
_Imos_45		0.3446		1.1645
		(0.0663)***		(0.0513)***
_Imos_66		0.5550		0.2584
		(0.0856)***		(0.0366)***
_Imos_67		1.6900	-0.1498	1.1650
		(0.0281)***	(0.0838)*	(0.0256)***
_Imos_68		1.5480		1.0892
		(0.0234)***		(0.0162)***
_Imos_69		1.3295		0.9237
		(0.0295)***		(0.0334)***
_Imos_72		-0.0707	-0.4374	1.5356
		(0.0668)	(0.1777)**	(0.0679)***
_Imos_73		0.7289	0.1747	1.1482
		(0.0637)***	(0.1808)	(0.1247)***
_Imos_74		1.4512	0.2040	1.1726
		(0.0226)***	(0.4014)	(0.0810)***
_Imos_75		0.8014		1.3019
		(0.0380)***		(0.0949)***
_Imos_76		1.2825		
		(0.0389)***		
_Imos_77		0.7070	0.1723	0.1058
		(0.0599)***	(0.0696)**	(0.0549)*
_Imos_78		1.1440	0.0976	1.2923
		(0.1582)***	(0.0368)***	(0.0691)***
_Imos_79		0.4024	0.1478	0.7283
		(0.3182)	(0.0494)***	(0.1086)***
_Imos_80		-0.2276	0.3552	1.0038
		(0.0549)***	(0.0909)***	(0.1099)***
_Imos_81		0.2170	0.0696	1.3934
		(0.0538)***	(0.4043)	(0.0521)***
_Imos_82		0.3983	0.5935	0.3053
		(0.0764)***	(0.2544)**	(0.1218)**
_Imos_83		0.8939		1.7766
		(0.0681)***		(0.2034)***
_Imos_84		0.0171	0.3660	1.2796
		(0.1115)	(0.3257)	(0.1095)***
_Imos_85		0.6381	0.2134	
		(0.1389)***	(0.5096)	
_Imos_86		0.1043	0.7409	0.1020

		(0.1225)	(0.2467)***	(0.0423)**
_Imos_87		0.3736	-0.3231	1.0968
		(0.0919)***	(0.5030)	(0.0189)***
_Imos_88		1.2709		0.7647
		(0.0534)***		(0.0193)***
_Imos_89		1.0045		-0.2014
		(0.0546)***		(0.8039)
_Imos_90		1.0262		0.6335
		(0.0922)***		(0.6770)
_Imos_91		1.3544		-0.2076
		(0.1290)***		(0.1281)
_Imos_92		0.8700	-0.1222	1.1181
		(0.0191)***	(0.1397)	(0.0405)***
_Imos_93		1.1269	0.1207	0.0840
		(0.0203)***	(0.2378)	(0.0543)
_Imos_94		1.0998		
		(0.0229)***		
_Imos_95		0.9575	0.8719	1.1839
		(0.0265)***	(0.7692)	(0.0528)***
_Imos_96		0.9536		1.2336
		(0.0459)***		(0.0201)***
_Imos_97		1.1031		0.2067
		(0.0637)***		(0.0809)**
_Imos_100		0.0471		0.7662
		(0.0224)**		(0.4208)*
_Imos_101		1.7525		1.1507
		(0.0170)***		(0.0530)***
_Imos_102		0.8232		0.0283
		(0.0438)***		(0.0240)
_Imos_103		1.0297	0.6963	1.2823
		(0.0482)***	(0.0316)***	(0.1846)***
_Imos_104		0.2489	-0.0170	1.2753
		(0.0148)***	(0.0970)	(0.0179)***
_Imos_105		0.1835	-0.0533	1.1974
		(0.0277)***	(0.1758)	(0.0142)***
_Imos_106		-0.0083	0.1005	0.2338
		(0.0324)	(0.1685)	(0.0656)***
_Imos_107		1.8693	-0.3893	0.9928
		(0.0292)***	(0.2917)	(0.0944)***
_Imos_109		0.2977		
		(0.0146)***		
_Imos_110		0.1325		-0.0752
		(0.0164)***		(0.2166)
_Imos_112		0.4357		0.0363
		(0.0160)***		(0.1103)
_Imos_113		0.3614		
		(0.0441)***		
_Imos_114		0.2190		0.8442
		(0.0784)***		(0.3196)***
_Imos_115		1.3234		1.3419
		(0.0538)***		(0.0727)***
_Imos_116		-0.3686		
		(0.6952)		

_Imos_117		-0.3882		0.2364
		(0.3891)		(0.1310)*
_Imos_118		1.0981		0.7633
		(0.0273)***		(0.0483)***
_Imos_119		1.3878		0.3254
		(0.0324)***		(0.0919)***
_Imos_120		0.4109		1.1608
		(0.0405)***		(0.0820)***
_Imos_121		0.1803		0.4114
		(0.0746)**		(0.1946)**
_Imos_122		0.3540		1.0375
		(0.7456)		(0.0705)***
_Imos_124		1.2709		1.0748
		(0.0309)***		(0.0911)***
_Imos_125		1.3785		-0.4224
		(0.0224)***		(0.7538)
_Imos_126		0.1632		0.0816
		(0.0250)***		(0.0839)
_Imos_127		0.0359		
		(0.0256)		
_Imos_128		1.0747		0.3959
		(0.0251)***		(0.0794)***
_Imos_129		1.2897		1.8316
		(0.0229)***		(0.0858)***
_Imos_130		-0.2769		1.6777
		(0.0226)***		(0.0637)***
_Imos_131		-0.0209		1.6852
		(0.0233)		(0.1211)***
_Imos_132		0.2702		-0.0503
		(0.0375)***		(0.0807)
_Imos_133		0.4001		1.4025
		(0.0605)***		(0.0422)***
_Imos_134		0.9676		0.2661
		(0.0285)***		(0.0419)***
_Imos_135		0.7837		1.1902
		(0.0325)***		(0.0203)***
_Imos_136		0.8756		1.1315
		(0.0299)***		(0.1897)***
_Imos_137		1.2174		1.1739
		(0.0280)***		(0.0382)***
_Imos_138		1.0809		0.1689
		(0.1773)***		(0.0965)*
_Imos_139		0.7832		0.9319
		(0.1617)***		(0.2926)***
_Imos_140		0.9303		0.3648
		(0.0384)***		(0.3036)
_Imos_141		1.2736		0.6992
		(0.0411)***		(0.1597)***
_Imos_142		1.0319		0.6469
		(0.0209)***		(0.1583)***
_Imos_143		0.9732		1.1685
		(0.0242)***		(0.1083)***
_Imos_144		1.2270		0.9066

		(0.0589)***		(0.1619)***
_Imos_145		1.2978		0.8296
		(0.0824)***		(0.4418)*
_Imos_146		1.5496		
		(0.0806)***		
_Imos_147		-0.1234		0.1649
		(0.1708)		(0.0389)***
_Imos_148		0.9534		0.9980
		(0.0824)***		(0.0515)***
_Imos_149		0.9512		1.0887
		(0.3072)***		(0.1079)***
_Imos_150		0.6601		1.0026
		(0.0250)***		(0.1793)***
_Imos_151		0.6494		1.5211
		(0.0399)***		(0.0307)***
_Imos_152		1.1687		1.0615
		(0.4235)***		(0.0612)***
_Imos_153		-0.1160		1.1577
		(0.4534)		(0.0712)***
_Imos_154		0.8014		1.4215
		(0.0157)***		(0.0369)***
_Imos_155		1.2721		1.5262
		(0.0154)***		(0.1168)***
_Imos_156		0.5735		1.1787
		(0.0749)***		(0.0673)***
_Imos_157		1.1510		1.2591
		(0.0669)***		(0.0398)***
_Imos_158		1.2251		1.4357
		(0.0464)***		(0.0861)***
_Imos_159		0.6161		1.2964
		(0.0659)***		(0.1230)***
_Imos_160		1.1884		0.0184
		(0.0223)***		(0.1969)
_Imos_161		0.4063		1.5038
		(0.0285)***		(0.0535)***
_Imos_162		0.0456		1.3254
		(0.0766)		(0.0612)***
_Imos_163		1.5419		
		(0.0598)***		
_Imos_164		0.6974		0.7418
		(0.1819)***		(0.0880)***
_Imos_165		1.6674		0.5977
		(0.0704)***		(0.1602)***
_Imos_166		0.8350		0.4174
		(0.1386)***		(0.5702)
_Imos_167		1.0389		0.1932
		(0.1131)***		(0.4059)
_Imos_168		0.8418		0.5351
		(0.1932)***		(0.1107)***
_Imos_169		0.7911		0.5786
		(0.1837)***		(0.2819)**
_Imos_170		1.0914		0.4036
		(0.0176)***		(0.1940)**

_Imos_171		0.9696		0.2450
		(0.0205)***		(0.0623)***
_Imos_174		0.4995		1.3175
		(0.0865)***		(0.0817)***
_Imos_175		0.4761		
		(0.3888)		
_Imos_176		1.4302		0.6083
		(0.0419)***		(1.0937)
_Imos_177		0.2605		
		(0.0860)***		
_Imos_178		0.8834		1.9708
		(0.0515)***		(0.3466)***
_Imos_179		1.1625		
		(0.0596)***		
_Imos_180		1.3582		0.8245
		(0.3907)***		(0.0800)***
_Imos_181		0.5207		0.5549
		(0.3650)		(0.2303)**
_Imos_182		1.2739		0.9317
		(0.0251)***		(0.0984)***
_Imos_183		0.7229		0.8651
		(0.0437)***		(0.1006)***
_Imos_184		1.3196		
		(0.0377)***		
_Imos_185		0.5902		0.9591
		(0.0606)***		(0.1181)***
_Imos_186		1.1568		1.0259
		(0.0262)***		(0.0803)***
_Imos_187		0.8140		0.1600
		(0.0438)***		(0.0785)**
_Imos_188		0.7233		0.2791
		(0.0227)***		(0.0550)***
_Imos_189		0.6916		0.9870
		(0.0280)***		(0.0651)***
_Imos_190		1.1312		1.2878
		(0.0573)***		(0.0295)***
_Imos_191		0.8266		1.2210
		(0.0693)***		(0.0365)***
_Imos_192		0.1361		
		(0.0092)***		
_Imos_193		0.1241		0.1872
		(0.0200)***		(0.0603)***
_Imos_194		0.7969		1.2554
		(0.0319)***		(0.0278)***
_Imos_195		0.9688		0.2367
		(0.0328)***		(0.1462)
_Imos_196		1.1816		-0.2077
		(0.0193)***		(0.1577)
_Imos_197		0.6921		1.4477
		(0.0306)***		(0.0842)***
_Imos_198		1.0395		0.5040
		(0.0334)***		(0.1834)***
_Imos_199		0.4172		0.1436

		(0.0647)***		(0.0495)***
_Imos_200		0.4487		1.0615
		(0.0094)***		(0.0542)***
_Imos_201		-0.0991		1.3729
		(0.0124)***		(0.0363)***
_Imos_202		0.2220		1.1745
		(0.0119)***		(0.0322)***
_Imos_203		0.2789		0.0315
		(0.0338)***		(0.0603)
_Imos_204		1.5141		1.4257
		(0.0214)***		(0.0408)***
_Imos_205		1.2242		0.8194
		(0.0289)***		(0.0919)***
_Imos_206		0.9833		1.7351
		(0.0557)***		(0.0969)***
_Imos_207		1.0309		1.6724
		(0.0796)***		(0.0817)***
_Imos_208		1.0520		1.1626
		(0.0420)***		(0.0601)***
_Imos_209		0.8519		
		(0.0520)***		
_Imos_212		1.0682		-0.0616
		(0.0541)***		(0.1597)
_Imos_213		1.1911		1.4174
		(0.0774)***		(0.2173)***
_Imos_214		-0.1565		1.6443
		(0.6266)		(0.1913)***
_Imos_215		-0.0374		
		(0.2028)		
_Imos_216		1.4586		
		(0.0183)***		
_Imos_217		0.6172		1.1281
		(0.0313)***		(0.2118)***
_Imos_71				0.2977
				(0.0699)***
_Imos_98				0.0518
				(0.8962)
_Imos_99				1.0954
				(0.0350)***
_Imos_108				1.5868
				(0.0306)***
_Imos_111				1.4142
				(0.1823)***
_Imos_123				0.9037
				(0.1463)***
_Imos_172				0.7627
				(0.0591)***
_Imos_173				1.2884
				(0.0685)***
_Imos_210				0.5555
				(0.1690)***
_Imos_211				0.4973
				(0.1410)***

_Imos_218				1.2562
				(0.1353)***
_Imos_219				0.8946
				(0.4898)*
_Imos_222				1.5773
				(0.1268)***
_Imos_223				-0.3345
				(0.0122)***
_Imos_224				0.3852
				(0.1605)**
_Imos_226				0.4980
				(0.0087)***
_Imos_227				1.4675
				(0.5066)***
Constant	-0.8952	-2.6128	-1.0623	-1.8197
	(0.0269)***	(0.0253)***	(0.0289)***	(0.0333)***
Observations	200804	401005	258266	269891

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

LIST OF REFERENCES

Alinsky, Saul. *The Columbia World of Quotations.* New York: Columbia University Press, 1996, www.bartleby.com/66/, accessed July 2006.

Alpert, R.T. Hispanic Immigration: Assimilation or Separation?, http://www.users.crocker.com/~amedpub/rc21d/hispanic_assimilation.htm, accessed September 2006.

Alvarez, L., *Army Effort to Enlist Hispanics Draws Recruits, and Criticism*, http://www.nytimes.com/2006/02/09/national/09recruit.html?ei=5102&en=b822eeeb793fe363&ex=11421, accessed September 2006.

Asch, Beth J., John A. Romley and Mark E. Totten. "The Quality of Personnel in the Enlisted Ranks." The Rand Corporation, Santa Monica, CA, 2005.

———. and B. Warner. "The Economics of Military Manpower." Handbook of Defense Economics, Volume 1, Elsevier Science, BV, 1995.

Asimov, Isaac. *The Columbia World of Quotations.* New York: Columbia University Press, 1996, www.bartleby.com/66/, accessed July 2006.

Barkan, Elliott. *A Nation of Peoples: A Sourcebook on America's Multicultural Heritage.* Greenwood Press, London, England, 1999.

Bendersky, Joseph. *The "Jewish Threat": Anti-Semitic Politics of the U.S. Army.* Basic Books, New York, NY. 2000.

Buddin, Richard J. "Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics." The Rand Corporation, Santa Monica, CA, 2002.

———. and K. Kapur. "Tuition Assistance Usage and First-Term Military Retention." The Rand Corporation, Santa Monica, CA, March 2002.

Burton, William. *Melting Pot Soldiers: The Union's Ethnic Regiments.* Fordham University Press, New York, NY, 1998.

Claasen, Ryan L. Political Opinion and Distinctiveness: The Case of Hispanic Ethnicity. Political Research Quarterly, Vol. 57, No. 4, December 2004.

Chief of Naval Personnel Public Affairs. Navy Establishes Diversity Directorate. (2004), http://www.news.navy.mil/search/dispal.asp?story_id=14616, accessed July 2006.

Cooke, T. W. and A. O. Quester. "Who stays and Who Leaves? Identifying successful Navy Recruits." Center For Naval Analyses, Alexandria, VA, 1988.

———. “What Characterizes Successful Enlistees in the All-Volunteer Force: A Study of Male Recruits in the U.S; Navy.” Social Science Quarterly 73, no. 2(1992):238-251.

DACOWITS fact sheet, http://www.js.pentagon.mil/dacowits/tableabout_subpage.html, accessed August 2006.

Days, J. H. and Y. L. Ang. “An empirical examination of JROTC Participation on enlistment, Retention and attrition.” Naval Postgraduate School, Monterey, CA, December 2004.

Department of Defense. Population Representation in the Military Services Fiscal Year 2004, http://www.dod.mil/prhome/poprep2004, accessed September 2006.

Duus, Masayo. *Unlikely Liberators: The Men of the 100th and 442nd*. University of Hawaii Press, Honolulu, HI, 1987.

Evans, Rhonda. A History of the Service of Ethnic Minorities in the U.S. Armed Forces. University of California Berkeley, 2003.

Fort Point NHS. Civil War Soldiers, Spies & Nurses, http://www.nps.gov/archive/fopo/exhibits/women/women2.htm, accessed August 2006.

———. Spanish-American War, http://www.nps.gov/archive/fopo/exhibits/women/women2.htm, accessed August 2006.

———. Revolutionary War Women at War Exhibit, http://www.nps.gov/archive/fopo/exhibits/women/women2.htm, accessed August 2006.

Gibson, Campbell and Kay Jung. Historical Census Statistics On Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990, For Large Cities And Other Urban Places In The United States. U.S. Census Bureau, 2005, http://www.census.gov/population/www/documentation/twps0076.html, accessed September 2006.

Gilroy, Curtis L., David K. Horne, and D. Alton Smith, eds. Military Compensation and Personnel Retention: Models and Evidence. U.S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, VA,1991.

Gomez, Laura E. The Birth of the “Hispanic” Generation: Attitudes of Mexican-American Political Elites toward the Hispanic Label. *Latin American Perspectives,* Vol. 19, No. 4, 1992.

Hansen, M., J. Wenger. "Why Do Pay Elasticity Differ?." Center for Naval Analyses, Alexandria, VA, March 2002.

Harris-Jenkins, Gwyn. "Armed Forces and Society." *International Military and Defense Encyclopedia.* Brassey's Inc., New York, NY, 1993.

Hattiangadi, A. U., G. Lee and A. O. Quester. "Recruiting Hispanics: The Marine Corps Experience Final Report," The Rand Corporation, Santa Monica, CA, March 2004.

Hodari, Apriel and Willie Hopkins, Amanda Kraus, eds. "Evidence-Based Transformation: Mission Case for AF Diversity," http://www.sm.nps.navy.mil/nwc/05/17_DIVERSITY/KRAUS_4-11-AFDiversity_Workforce%20conference.ppt, accessed July 2006.

Holm, Tom.Strong Hearts. *Wounded Souls: Native American Veterans of the Vietnam War.* University of Texas Press, Austin, TX, 1996.

Lovato, R. *The War for Latinos*, http://www.latinola.com/story.php?story=2841, accessed September 2006.

JROTC History. Ware County JROTC, http://www.ware-jrotc.com/UnitHistory/JROTCHistory/jrotc_history.htm#Index, accessed September 2006.

MacGregor, Morris J. "Minorities in the Armed Forces." *Encyclopedia of the American Military*. Volume III, Scribner's, NY, 1994.

Memorandum to Clark Glifford with attached statement to the Fahy Committee, dated March 28 and 29, 1949, by Kenneth C. Royall, Secretary of the Army, http://www.trumanlibrary.org/whistlestop/study_collections/desegregation/large/documents/index.php?documentdate=1949-03-28&documentid=197&studycollectionid=deseg&pagenumber=1, accessed August 2006.

Mullen, Mike. CNO Guidance for 2006: Meeting the Challenge of a New Era. (2006), http://www.navy.mil/features/2006CNOG.pdf, accessed July 2006.

———. Setting the Course. (2006), http://www.navyleague.org/sea_power/mar06-38.php, accessed July 2006.

Nalty, Bernard and Morris MacGregor. *Blacks in the Military: Essential Documents.* Scholarly Resources Inc., Wilmington, DE, 1981.

Navy Historical Center. Nurses and the U.S. Navy prior to 1908, http://www.history.navy.mil/photos/prs-tpic/nurses/nrs-a.htm, accessed August 2006.

New York Times. “Use of Negroes as Soldiers.” 16 February 1863.

Office of Human Resources. University of California, Berkeley. Why Diversity Matters. http://hrweb.berkely.edu/seads/diverse.htm, accessed July 2006.

Office of Management and Budget. President’s Management Agenda, FY 2002, http://www.whitehouse.gov/omb/budget/fy2002/mgmt.pdf, accessed May 2006.

Office of the Under Secretary of Defense for Personnel and Readiness. Military Personnel Human Resources Strategic Plan Change 1, http://www.dod.mil/prhome/docs/military_hr_stratplan3.pdf, accessed May 2006.

———. Strategic Plan for 2006-2011, http://www.dod.mil/prhome/docs/stratplan06a.pdf. , accessed May 2006.

Parillo, Vincent. *Strangers to These Shores: Race and Ethnic Relations in the United States.* Allyn and Bacon, Boston, MA, 1997.

Pew Hispanic Center/Kaiser Family Foundation. 2002 National Survey of Latinos, 2002, http://www/pewhispanic.019/files/execsum/15.pdf, accessed September 2006.

Policy Alert Supplement. Educational level of Colorado’s Workforce Projected to Decline. National Center for Public Policy and Higher Education, San Jose, CA, 2005

Quester, A. O. and M. Adedeji. “Reenlisting in the Marine Corps: The Impact of Bonuses, Grade, and Dependency Status.” Center for Naval Analyses, Alexandria, VA, July 1991.

———. Theresa H. Kimble. “Final Report: Street-to-Fleet Study Volume I: Street-to-Fleet for the Enlisted Force.” Center for Naval Analyses, Alexandria, VA, 2001.

RAND. Sexual Orientation and U.S. Military Personnel Policy: Options and Assessment. National Defense Research Institute, Santa Monica, CA, 1993.

Rees, John U. The proportion of Women which ought to be allowed…” Female Camp Followers with the Continental Army. The Continental Line, http://www.continentalline.org/articles/article.php?date=9501&article=950101, accessed August 2006.

Rochin, Refugio I. and Lionel Fernandez and Jose A. Oliveros. US *Latino Patriots: From the American Revolution to Iraq 2003 – An Overview.* Michigan State University, MI, 2005.

Roy, Daniel L. Summary Results from the Latino Ethnic Attitude Survey. University of Kansas, 1997, http://www.azteca.net/aztec/survey, accessed September 2006.

Sayles, Andre H. Person to Person: The Diversity Challenge for the Army After Next. Lloyd J. Matthews and Tinaz Pavri. *Population Diversity and the U.S. Army.* U.S. Army War College, Carlislie, PA, 1999.

Sensi-Isolani, Paola. "Italians." *A Nation of Peoples: A Sourcebook on America's Multicultural Heritage*. Greenwood Press, London, England. 1999.

Suro, R. A Growing Minority, http://www.facts.com/wfea70050.htm, accessed September 2006

———. and Passel, J.S. The Rise of the Second Generation: Changing patterns in Hispanic Population Growth. Pew Hispanic Center, Washington, DC, 2003.

Truman, Harry S. "Establishing the President's Committee on Equality of Treatment and Opportunity In the Armed Forces." Executive Order 9981, 26 July 1948, http://www.trumanlibrary.org/9981a.htm, accessed August 2006.

United States General Accounting Office. GAO's 2001 Performance and Accountability and High-Risk Series Press Briefing Talking Points of David M. Walker, http://www.gao.gov/cghome/pascg.html, accessed May 2006.

———. GAO 01-263 High Risk Series, http://www.gao.gov/cgi-bin/getrpt?GAO-01-263, accessed May 2006.

———. *Military Recruiting: DoD Needs to Establish Objectives and Measures to Better Evaluate Advertising's Effectiveness.* GAO-03-1005, Washington, DC, 2003.

———. *Military Personnel: DoD Needs Action Plan to Address Enlisted Personnel Recruitment and Retention Challenges.* GAO-06-134, Washington, DC, 2005.

U.S. Army Chaplain Center and School. "Chapter 5: World War I and Its Aftermath, 1919-1941," http://www.usachcs.army.mil/history/brief/chapter_5.htm, accessed August 2006.

United States Army Research Institute for the Behavioral and Social Sciences. *Race relations Research in the U.S, Army in the 1970s: A Collection of Selected Readings.* 1988.

U.S. Census Bureau. Overview of Race and Hispanic Origin, March 2001, http://www.census.gov/population/www/documentation, accessed September 2006.

———. The Hispanic Population, May 2001, http://www.census.gov/population/www/documentation, accessed September 2006.

———. Why collect Hispanic Origin information?, http://ask.census.gov, accessed September 2006.

United States Bureau of Labor Statistics, ftp://ftp.bls.gov/pub/time.series/la/ accessed August 2006.

Warner, John and Gary Solon. "First Term Attrition and Reenlistment in the U.S. Army." Gilroy, Curtis L., David K. Horne, and D. Alton Smith, eds. Military Compensation and Personnel Retention: Models and Evidence. U.S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, VA,1991.

Webster's Online Dictionary. http://www.websters-online-dictionary.org/definition/diversity, accessed July 2006.

Wenger, Jennie W. and Apriel K. Hodari. "Predictors of attrition: Attitudes, Behaviors, and Educational Characteristics." Center For Naval Analyses, Alexandria, VA, July 2004.

Williams, Rudi. Military Women Take 200-year Trek Toward Respect, Parity. United States Department of Defense, http://www.defenselink.mil/news/Aug19998/n08121998_9808123.html, accessed August 2006.

Yung, Judy."Chinese." *A Nation of Peoples: A Sourcebook on America's Multicultural Heritage.* Greenwood Press, London, England, 1999.

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